# CANNER PACKER

APRIL 1959

CANNED • DRY • FROZEN • GLASS

a consolidation of:

CANNER and FREEZER
FOOD PACKER
WESTERN CANNER and PACKER

New ideas in production equipment from canner/freezer convention shows .....32

Instruments used to tighten production control—a technical review .....25

Experienced corn men tell what is new in growing, handling raw product (Cover) 37

# NEW FROM ROCHE

WATER-DISPERSIBLE DRY BETA CAROTENE BEADLETS (TYPE 2.4-S)

# BETTER Selling Looking Colored LIQUID FOODS

## with New DRY Safe

## Beta Carotene Beadlets

(Type 2.4-S, Water-Dispersible)

1. *Better, because . . . Water-Dispersible, Fast* — Roche Dry Beta Carotene Beadlets (Type 2.4-S) are almost instantly dispersible in water and fruit juices (see illustration). A clouded effect similar to that produced by fruit insolubles is contributed. The bland-tasting beadlets have good stability.

2. *Better, because . . . Edible, Free-Flowing Beadlets* — Tiny droplets of beta carotene are enclosed in dry, edible, free-flowing, water-dispersible Beadlets. They standardize the color of such foods as:

- Fruit juices
- Fruit drinks
- Juice concentrates
- Mellorine
- Baked goods
- Cheese
- Eggnog
- Gelatin desserts
- Dessert toppings
- Puddings
- Confections
- Egg yolk products
- Creamed foods
- Soups
- Other foods having a water base

3. *Better, because . . . Absolutely Safe* — Beta carotene Roche is the pure, man-made "duplicate" of the product which nature has widely distributed in the vegetable foods we human beings have been eating for thousands of years.

4. *Better, because . . . Colors Easily Standardized* — Color is easily standardized from yellow to orange depending on the amount of the Beadlets used.

5. *Better, because . . . Vitamin-A-Potent* — Each gram of the Type 2.4-S Beadlets provides approximately 30,000 U.S.P. units of vitamin A activity.

6. *Better, because . . . Mesh Sizes Varied* — The Roche beadlet particles represent a combination of commercial 30 to 80 mesh material.

OTHER FORMS OF ROCHE BETA CAROTENE PRODUCTS IN VEGETABLE OIL

Widely popular for use in certain oil-base foods, these are: 30% Beta Carotene Liquid Suspension • 24% Beta Carotene Semi-Solid Suspension • Blends of Beta Carotene and Vitamin A • Blends of Beta Carotene to specified dilutions.

*Ask your Roche salesman or write to the Vitamin Division for free samples.*

VITAMINS COME *RIGHT* FROM ROCHE

VITAMIN DIVISION • **HOFFMANN-LA ROCHE INC.** • Nutley 10, N. J.

*Pacific Coast distributor:* L. H. Butcher Co., San Francisco • Los Angeles • Seattle • Salt Lake City Portland. *In Canada:* Hoffmann-La Roche Ltd., 1956 Bourdon Street, St. Laurent, Montreal 9, P. Q.

a sensational step in canning

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FULLY AUTOMATIC SELF CONTROLLED
CONTINUOUS PRESSURE

## COOKER - COOLER

IMPROVES QUALITY

SAVES 80 % STEAM & WATER

SAVES 100 % LABOUR

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all sizes of cans & glasses
all capacities

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PARIS 16e (FRANCE)

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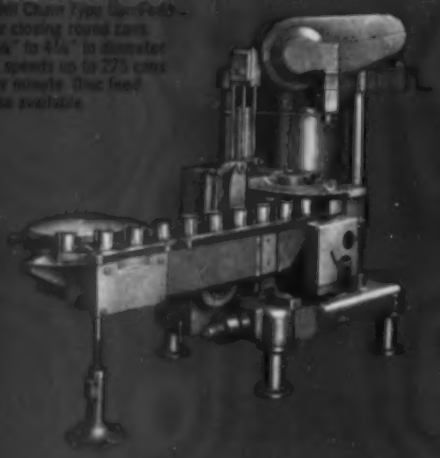
Food Machinery Department
1 à 7, Route de Saint-Denis
LA COURNEUVE (SEINE)
FRANCE

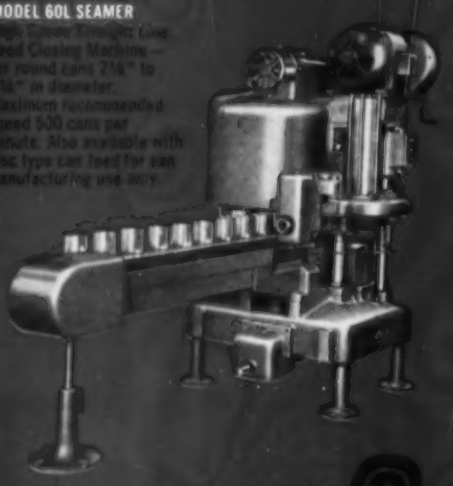
# *Which* ANGELUS CAN CLOSER *for you?*

**MODEL 40P-MSLF SEAMER**
with Chain Type Can Feed — for closing round cans 2¼" to 4¼" in diameter at speeds up to 275 cans per minute. Disc feed also available.

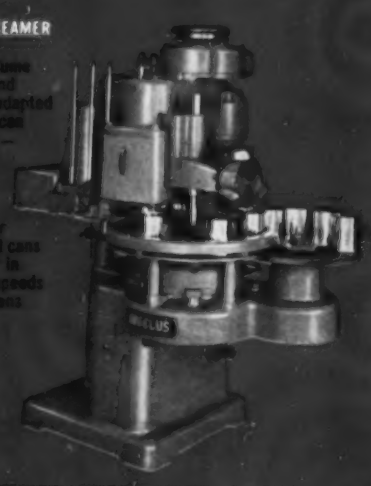


**MODEL 50P SEAMER**
with Disc Type Can Feed — for making or closing round cans 5" to 6⅜" in diameter at speeds up to 150 cans per minute.

**MODEL 60L SEAMER**
High Speed Straight Line Feed Closing Machine — for round cans 2¼" to 3¼" in diameter. Maximum recommended speed 500 cans per minute. Also available with disc type can feed for can manufacturing use only.



**MODEL 10P SEAMER**
Designed for moderate volume production and particularly adapted for frequent can size changes — adjustable for closing round cans 2¼" to 4¼" in diameter at speeds of 30 to 85 cans per minute.



These are a few of the many Angelus Seamers designed to meet all round can closing requirements. Angelus, with over 45 years of specialized experience, is the nation's only manufacturer exclusively producing automatic round can closing machines.

**WRITE TODAY** for complete details. Specify products, can dimensions and your capacity requirements.

**ANGELUS**
**Sanitary Can Machine Company**
**Cable Address "Angelmaco" Western Union Code**
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# CANNER PACKER

volume 128, number 4. APRIL 1959



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**COVER PICTURE: Sweet corn harvest isn't as much fun to watch since the machines replaced the girls in shorts that used to snap the ears. The machines are a lot more efficient, however. This improvement and many others have changed the methods of production of processed sweet corn. For a summary of new developments from seeds to cost control, turn to the section which begins on page 32.**

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**In the Next Issue:** *How four Pennsylvania processed food packers cooperatively solved their waste disposal problems with their city government.*
*How a Midwest preserve company has built a thriving business by specializing in wild fruit.*
*How instruments are employed in the processed foods business (second part of two-part article).*

# DISTINCTION

*In Furniture...*

## CHIPPENDALE

Chippendale furniture is distinctive for its exquisite proportions. Thomas Chippendale —designer, carver, cabinet maker—had the genius to transmute into consistent unity such heterogeneous elements as lattice backs, pagoda motifs, and the cabriole leg.

*In Seasonings...*

# Griffith's solublized seasonings *with* Pepperoyal®

You'll detect an exceptional flavor quality in PEPPEROYAL. And find it duplicated, batch after batch. All of the pepper extractive is contained in the base material, without loss of essential flavor elements. The laboratory controls that insure PEPPEROYAL quality also assure the better taste of all Griffith soluble spices and seasonings. Use PEPPEROYAL in catsup, and all other food products for a distinctive flavor.

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CHICAGO 9, 1415 W. 37th Street • UNION, N. J., 855 Rahway Avenue • LOS ANGELES 58, 4900 Gifford Avenue

**CANNER/PACKER** BUSINESS NEWS LETTER

totally dedicated to serving canned, dry, frozen, glassed food processors

April 1959

Kitchen automation is a development which every food canner and packer should be watching sharply. If you ignore "push-button" developments in this field, you may suddenly discover that some of your major packs are well on the way to losing their markets. Some developments on the way are hostess carts with refrigerated drawers or shelves, which can also be reversed to become heating units . . . sequence timing of cooking cycles, so that the heating of all foods for a meal can be programmed . . . high-speed electronic cooking and heating . . . more interest in foods which arrive in dishes suitable for both heating and serving.

Price spread . . . in our industries, the difference between what the grower receives and what the retailer sells for . . . is often used most unfairly to suggest that processed food packers and distributors are making large profits at the expense of the farmer. An analysis of the "Farm Food Market Basket," prepared by Grocery Mfrs. of America from USDA data, reveals that the farm cost from 1946 to 1958 has gone up only $28, while retail value has increased $288, which at first glance seems to prove these claims. However, of the $260 increase in the spread, $139 went to labor (much of it for more convenient foods), $36 went to transportation, $75 went to other business expenses, $5 to federal income taxes, and only $5 to packers and distributors. Not much profit in a $5 increase over a 12-year period.

Canner and freezer convention exhibitors report satisfaction over experiences at the NCA and NAFFP annual get-togethers held in Chicago, Ill., in late February and early March. At both shows traffic was considerably lighter than it has been in some earlier years. But the people who came to the exhibits of equipment and supplies were production and management men definitely interested in looking and learning, and where new or improved products were on display, many firm orders resulted. . . One by-product of the event was the talk among some exhibitors and some packers that the two associations should hold their conventions one right after the other . . . canners first one year, freezers first the next . . . and that one organization owned by the equipment-supply manufacturers should put on the exhibit for both.

How to grow corn for canning and freezing, and how to get it to the plant, is the subject of more than a dozen brief reports . . . by packers' field department executives and by scientists in the field of horticulture . . . which appear in the April issue of CANNER/PACKER. Similar raw product symposiums on peaches, tomatoes and apples are planned for later 1959, and on other products in 1960.

Alberta Meat Co. of Vancouver, B.C., will build a $750,000 meat canning plant in the Richmond area.

Minimum wage for agricultural labor may be 75¢ an hour this summer, 85¢ next summer, and $1 the next if a Senate bill introduced in February becomes law. After three years, the minimum wage for agricultural workers will become the minimum wage for industrial labor. The Secretary of Labor may make exceptions, but even if he exempts foreign seasonal workers, there are indications that unions may object. There were still 4 million persons unemployed in February.

## A GOOD MAN ON YOUR TEAM

Trained in practical packaging, the Anchor Hocking representative is a good man to consult with on glass packaging questions. He has helped others achieve greater efficiency, greater economy or better glass packaging results... and he is just as ready to be of service to you. If he does not have the answer at his finger tips, he has at his disposal Anchor Hocking's Package Engineering and Research Laboratories as well as Package Design Service. With the wide variety of quality-controlled containers and closures at the Anchor Man's command, you can depend upon his recommendations being well considered, impartial and in your best interest. Anchor Hocking Glass Corporation, Lancaster, Ohio.

# ANCHOR HOCKING

*Put an Anchor Man on your team*

The tin can—
still the best
food container
after 150 years
of successful
use!

And the best tin cans,
more than 8 out of every 10,
are made with Straits Tin from Malaya!

No other food container combines
all the advantages of the tin can.
It is light, strong, economical and safe.
It is nontoxic, long lasting, easy to
handle, and attractive. The tin can has
won and held the complete
confidence of customers.

You can depend on a reliable supply
of Straits Tin—world's standard
for quality and uniformity—
from sizable reserves.

**THE MALAYAN TIN BUREAU**
Dept. 498, 1028 Connecticut Ave., Washington 6, D.C.

Ask us to send you TIN NEWS, a free monthly letter. It will keep you posted on tin supply, prices, new uses and applications. Write today.

# Exotic Chinese Specialties or corn from Iowa...

Both depend on sales appeal to take them off the shelf and into the home. That's why it's important to protect the appetizing colors on the label. Feel this finish. It's Tuff-Coat, the toughest, most beautiful finish of them all. Ideal for all packages where scuff, water or heat resistance is desirable. Worth investigating!

**YOU ARE INVITED** to make your own comparison

WRITE MUIRSON LABEL CO., INC., FOR LABEL SAMPLES. Plants in: San Jose, Calif. Meriden, Conn. Peoria, Ill.

## MUIRSON *Tuff-Coat* LABELS

Protect their sales appeal

# LETTERS FROM READERS

## Bulk Raw Product Handling

We were the originator of the expendable field pallet box. We worked with the General Box Co. in developing this box, and . . it is becoming almost universal in the handling of many raw products.

Naturally, being the originator of this expendable pallet box, we are wholeheartedly in favor of its use. He has exercised many economic savings for the Delany Company, and has certainly made the contract farmers very happy in that we can unload and reload their trucks with empties in a very short period of time, thus freeing their trucks for other farm duties. We also feel that the use of palletization not only aids in inventory, but also saves us much product over a year's time because of the handling of larger units, and the ease with which these boxes are handled in dumping and feeding belts.

We definitely feel that the pallet box is here to stay and that every canner or packer should do everything in his power to handle raw product from the field to the plant as quickly as possible, and in as large lots as feasible. The day of the basket is finished, not only because of the high cost of labor, but because of the automation of today's food plants.

A. W. DUTCHER
Plant Manager, John H. Dulany & Son, Inc., Fruitland, Md.

## Irrigation vs. Plant Food

We are pleased at the interest of industrial groups in our project. We will study the mineral element content of the crops that we grow in the tanks, but other than this we have no plans to study quality factors.

DR. PARKER F. PRATT
Associate Chemist, University of California, Citrus Experiment Station, Riverside, Calif.

• *Dr. Pratt and associates are studying the effect of irrigation upon plant nutrients. See Raw Product Dept., this issue.*—Ed.

## Pork Products Wanted

We are interested in procuring full information, including names and addresses, etc., of pork packers in the United States being in a position to effect export shipments to Cuba, particularly of the following commodities: pork lard . . dry salted meats . . canned meats, etc.

ROBERTO MERCADE BOSCH
Managing Director, Comisiones Rofer S.A., Jose A. Saco No. 10, Santiago, Cuba.

• *We have sent Sr. Bosch names of a number of companies, and invite interested readers to correspond with him direct.*—Ed.

## Wants Sensory Test Info

. . . In Japan at present much attention is being given to the so-called "Sensory Test" of food products. We hope, therefore, that you will provide general or specific information on this subject, either in the form of an independent article or as a component of the "Technical Handbook" series which has been appearing in Western Canner and Packer and which we presume will also be appearing in CANNER/PACKER.

T. ONUMA
Tokyo Food Products, Ltd., Tokyo, Japan

• *We hope to have an article on this subject in an early issue.* Ed.

## World Food Congress

For the period of a fortnight starting on June 13, 1959, Lausanne (Switzerland) will be the food capital of the world. It owes this honor to the International Assn. on Food Distribution (AIDA), which has chosen this city for the organization of its 4th Congress. Participants at this convention, who are expected to number approximately 2,500 and to come from 35 countries, will include manufacturers, representatives of the wholesale and retail trades, purchasing associations, voluntary chains, chain stores and cooperative societies, as well as experts on refrigeration, etc.

A number of international organizations will also be holding meetings during the Congress. . . Its scope will also be supplemented and extended by an international food exposition. This exposition will inform the general public as well as members of the trade concerning the latest developments and progress made in food distribution. . .

H. GOLDEN
Secretary General International Congress on Food Distribution, Case Postale 476, Lausanne, Switzerland

## Generous Words

We find so many things about your magazine are so informative, and we have learned a great deal through reading it.

THE SKORSETHS
The Jelly Shop, Lakeview Berry Farm, Park Rapids, Minn.

## Personnel Data Requested

I am attempting to gather information concerning personnel programs used in the food processing industry. This is the type of information in which I am interested:

A. Personnel selection procedures used
   1. What are the jobs in the organizations and what are the requirements of the jobs?
   2. What are the worker qualifications for the jobs?
   3. How are workers selected?

B. The utilization of labor
   1. What kind of training programs are used for new workers?
   2. Are workers trained for more than one job?

C. Remuneration policies
   1. How are wage levels determined?

D. The role of unions in the food processing industry

I would appreciate it very much if you would supply me with any information you have, or direct me to a source (company or publication) where I can obtain this kind of material. Any additional material not mentioned but related to personnel management will be welcomed.

FRANK D. MORRISON
Research Fellow, Dept. of Horticulture, University of Idaho, Moscow, Idaho.

• *In addition to sources CANNER/PACKER is suggesting, readers are invited to send Mr. Morrison their comments. Ed.*

## New Raw Product Department

Your idea of a raw products department in which important developments in agriculture are disseminated to the agricultural fieldmen serving the food processing industry certainly is endorsed by the agricultural chemical industry.

OTTO P. STEINEN
Commodity sales manager, agricultural chemicals, Naugatuck Chemical Div., U. S. Rubber Co., Naugatuck, Conn.

## No Cough Drops

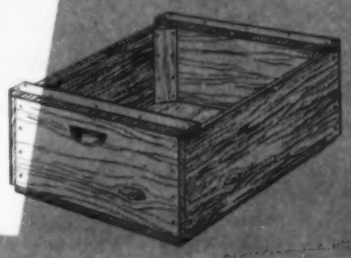
There are Smiths and Smiths and Smiths. So when you write about us, would you please be sure to say "A. O. Smith." You'd go crazy, too, if you kept getting orders for cough drops.

CHARLES R. SAMPLE
Public Relations Counsel, A. O. Smith Corp., Tipp City, Ohio.

# MORE

FOR YOUR MONEY WITH

# NEW



# CELLU-SAN Q

**More power to repel rot in field boxes and hampers**
**More power to resist the ravages of hot sun, drenching rain, and rough handling**
**No increase in price**

This is the simple story of new Cellu-san Q. Behind these brief statements lies a breakthrough in chemical science which was accomplished after a decade of experience in the field of wood preservation for the canning industry.

Now a way has been found to increase fungicidal potency 88% and the effectiveness of water repellents 19%. The result far surpasses the quality of any product of its kind now on the market.

Cellu-san Q will undoubtedly mean greater savings for you. We invite you to keep abreast of this new development by writing today for the full story entitled "Cellu-san Q, Proof of Superiority".

**CHEMICAL PRODUCTS DIVISION**
**Darworth Incorporated • Simsbury, Connecticut**

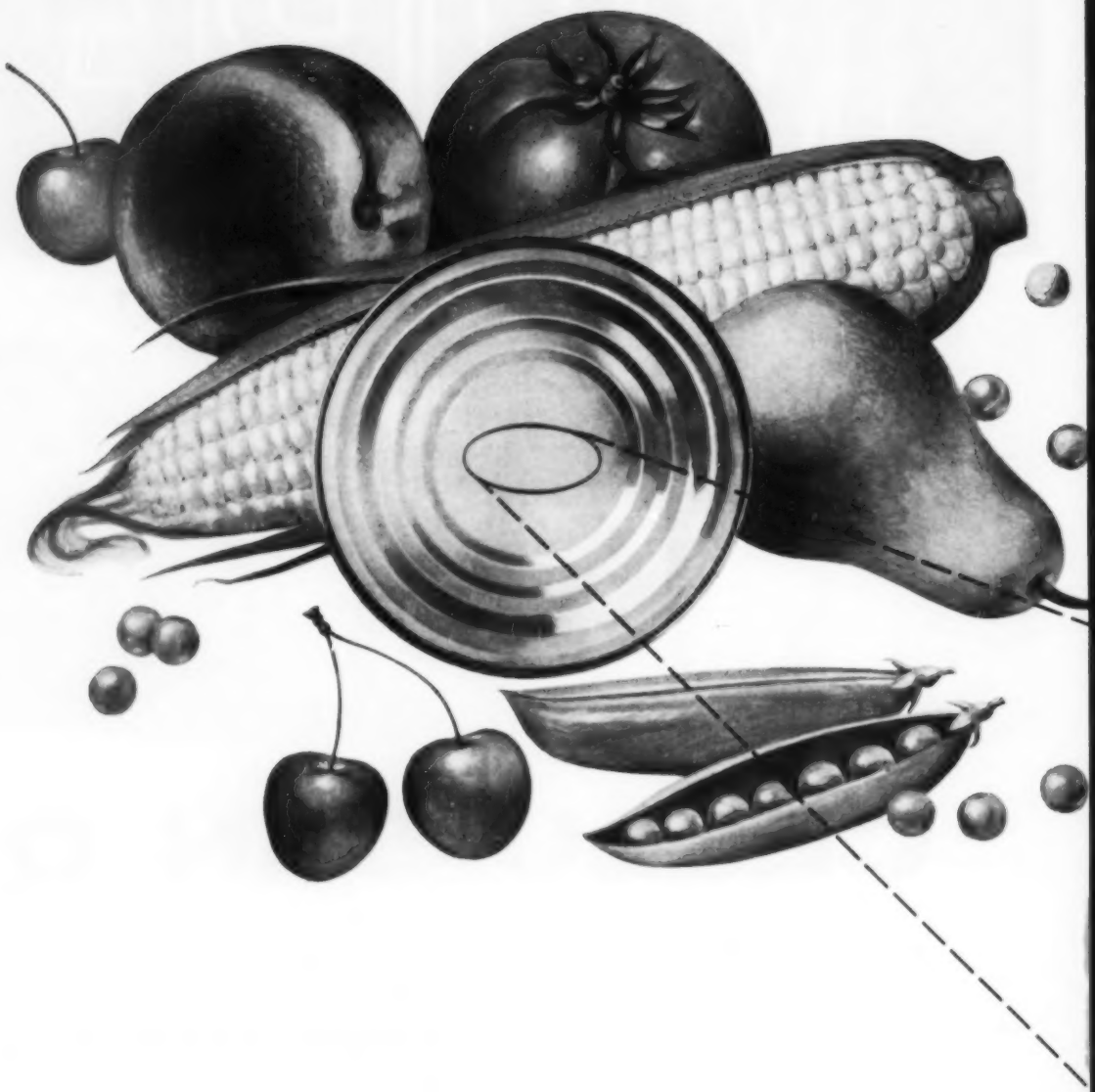
Please send me the facts about new Cellu-san Q.

Name_____

Address_____

_____

**PRODUCED BY THE ORIGINATORS OF THE FIRST FIELD BOX PRESERVATIVE**



## What this oval means to you!

As many a canner has found from his own experience, Canco's constant effort to produce perfect containers means fewer work stoppages on production lines, lower packing costs and maximum container efficiency throughout the channels of distribution. ☆ Canco's precise specifications for its containers are arrived at only after exhaustive laboratory tests, pilot-line manufacturing trials and experimental packs. This zeal for container perfection also applies to raw materials, packing—even shipping. ☆ That's why containers with the familiar oval can best take *your* products to market at a profit.

CANCO Division AMERICAN CAN COMPANY

*New York · Chicago · New Orleans · San Francisco*

# Here's what Flo-Sweet "R & D" means to you

## New products through research are helping many companies set new sales records

Refined Syrups maintains a comprehensive research and development laboratory. This means Flo-Sweet is constantly improved, processes are kept up-to-date, and the significance and utility of new sugars are continually under study.

Flo-Sweet's liquid sugar system was the earliest form of bulk handling, preceding by many years today's trend to advanced materials handling of oils, flour, granulated sugars, fats, etc. Specialized knowledge gained through this pioneering makes it possible for Flo-Sweet to offer:

COMPLETE ENGINEERING SERVICE – Design and installation of customer receiving, storage, and distribution systems with built-in controls of meters, pumps, and valves for push-button operation.

AUTOMATION – Coolers for bakers . . . heaters for fast and economical water removal . . . and specialized equipment designed by Flo-Sweet make possible continuous processing.

QUALITY IMPROVEMENTS – Removal of turbidity assures a truly neutral sweetener that safeguards flavor, aroma, and taste. Reduction of mineral content (ash) to .005% maximum and production of colorless liquid sugar, measures of sugar purity, are achievements of research.

NEW SWEETENERS – Flo-Sweet customers are enjoying the advantages of Sucrodex (sucrose-dextrose sugars), Inverdex (invert-dextrose sugars), and liquid sugar/corn syrup blends – a whole new family of sweeteners formulated to meet individual requirements.

In R&D, as well as in every phase of the company's service to industrial sugar users, Flo-Sweet resolves:

- **To help solve customers' problems.**
- **To offer products priced competitively and beyond reproach in quality.**
- **To earn the right to the continued confidence of sugar users, by keeping creatively alert to new developments.**

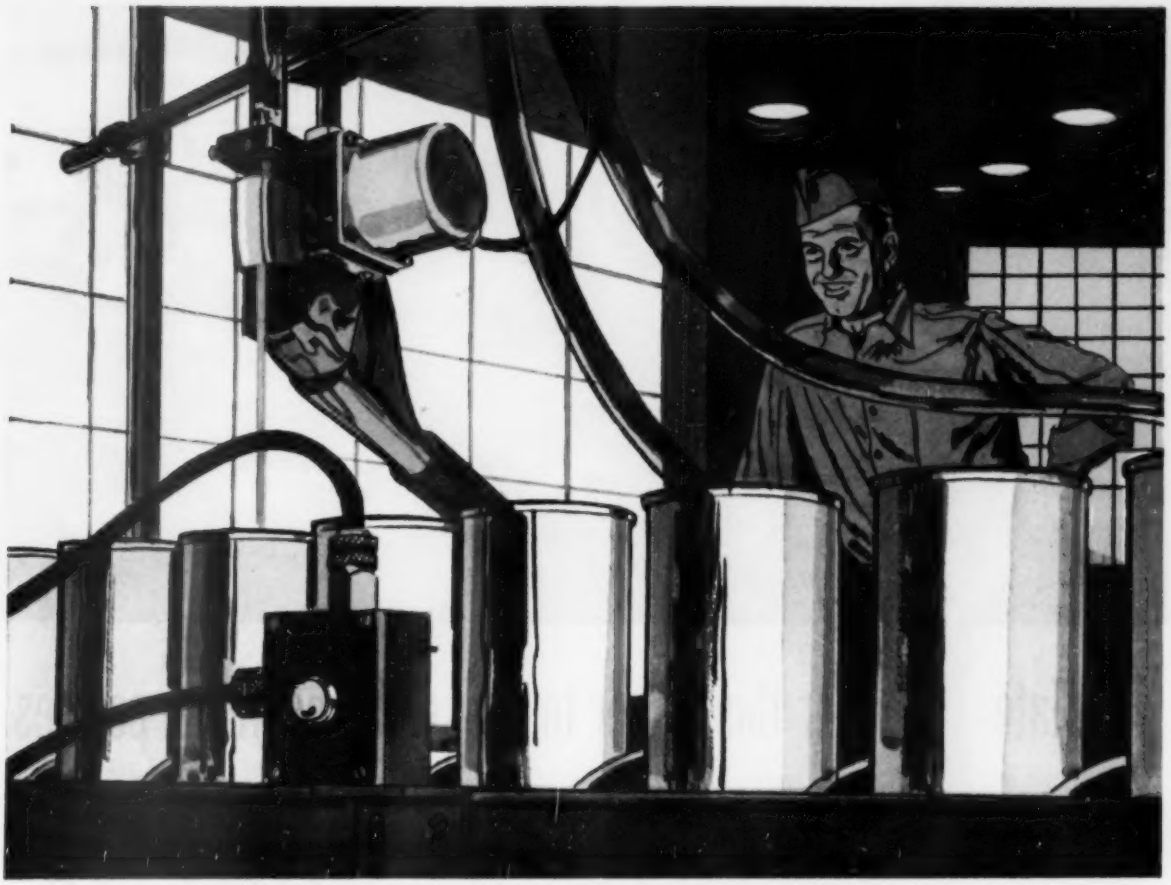
Flo-Sweet research has helped customers solve many problems. Factual reports, technical papers, illustrated brochures, and an authoritative handbook have been published to disseminate technical information widely.

**REFINED SYRUPS & SUGARS, INC.**

YONKERS, NEW YORK

SERVING INDUSTRIAL SUGAR USERS EXCLUSIVELY FROM YONKERS, ALLENTOWN, DETROIT, TOLEDO

FLO-SWEET®



Remarkable dispenser assures pin-point accuracy!

# New Flocron eliminates costly ingredient loss!

Canners, packers and food processors now using the new Flocron liquid dispenser report ingredient savings up to $1,000 per line. These savings are possible because the Flocron avoids waste inherent in "overflow fill" systems, stops "splash loss" and handles costly ingredients with money-saving speed and accuracy.

The remarkable Flocron is actually a precise electronic system with photoelectric circuits in a sealed unit and a new lever-type photo switch to activate dispensing. It assures high speed accuracy—even on lines handling up to 300 units per minute! Remote electronic controls permit you to "dial" the exact amount of liquid required for various can sizes: Brine . . . hot butter . . . Monosodium Glutamate . . . concentrated syrup . . . ascorbic acid . . . brine and sugar . . . spice oils . . . coloring . . . oil . . . chicken fat . . . flavors . . . medicinal liquids.

**Designed for efficient, low cost operation.** The Flocron is made of stainless steel and plastic and is constructed to avoid corrosion and lengthy breakdowns that result in costly downtime. There are no valves to stick or clog. The Flocron is easily cleaned by merely flushing the fluid system.

**No need to revise production lines.** The Flocron can be operated with existing equipment. Scientific Dispensing Company technicians are available in all areas to assist with installation and service problems.

The Flocron liquid dispenser is offered only by the Scientific Dispensing Division of the Morton Salt Company.

---

Mail coupon today for more information

Name _____
(please print)

Title _____

Company _____

Address _____

City _____ Zone ____ State _____

Scientific Dispensing Company, Division of

**MORTON SALT COMPANY**

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# too late for this owner to revise his insurance policies

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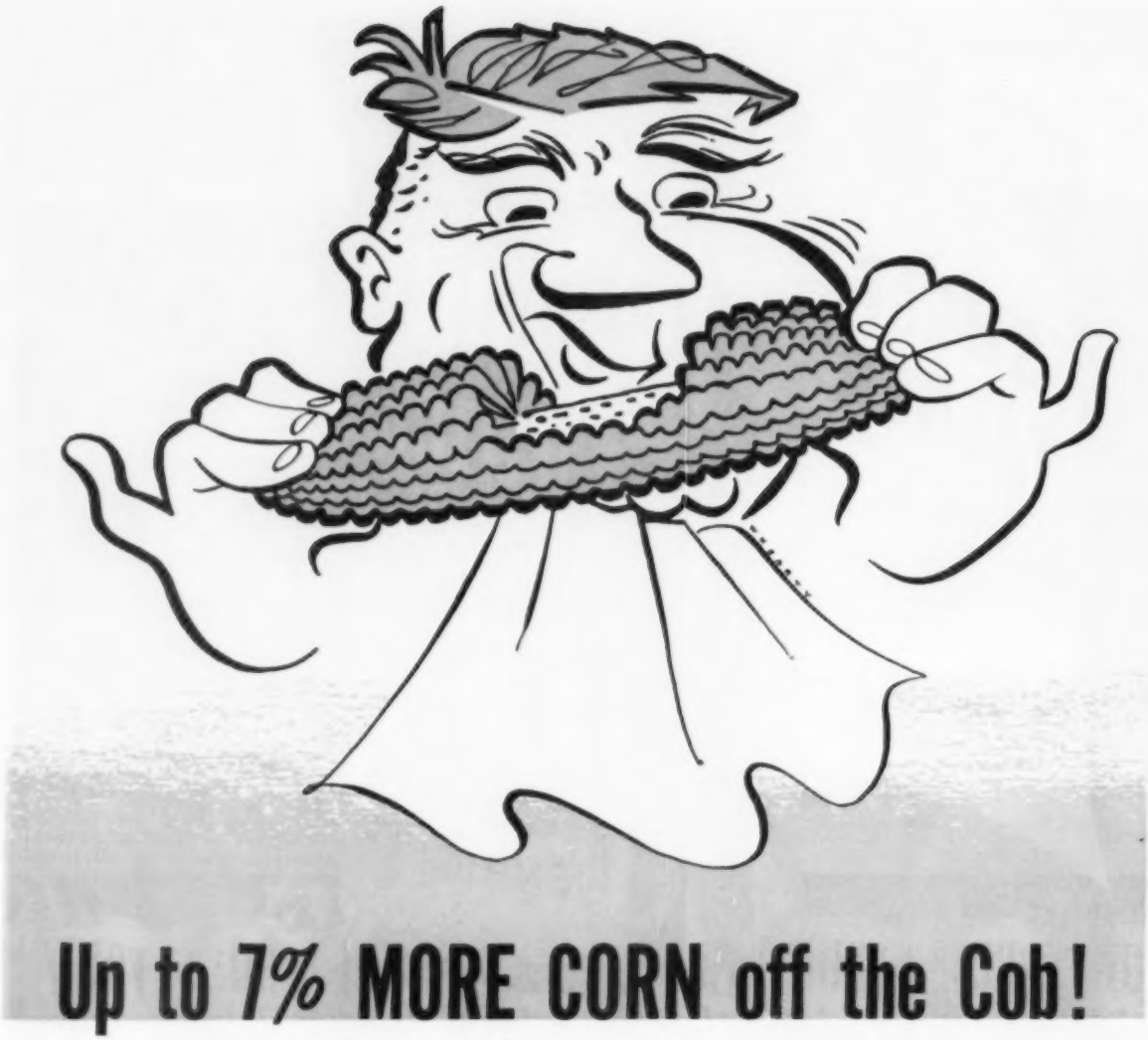

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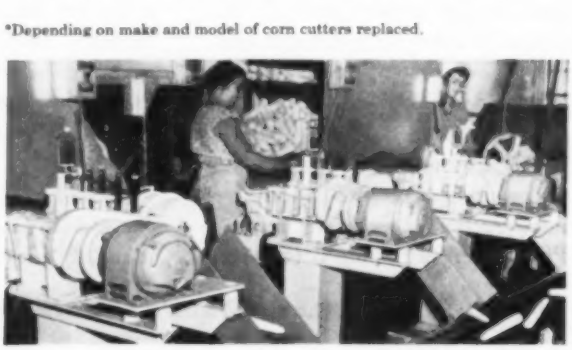

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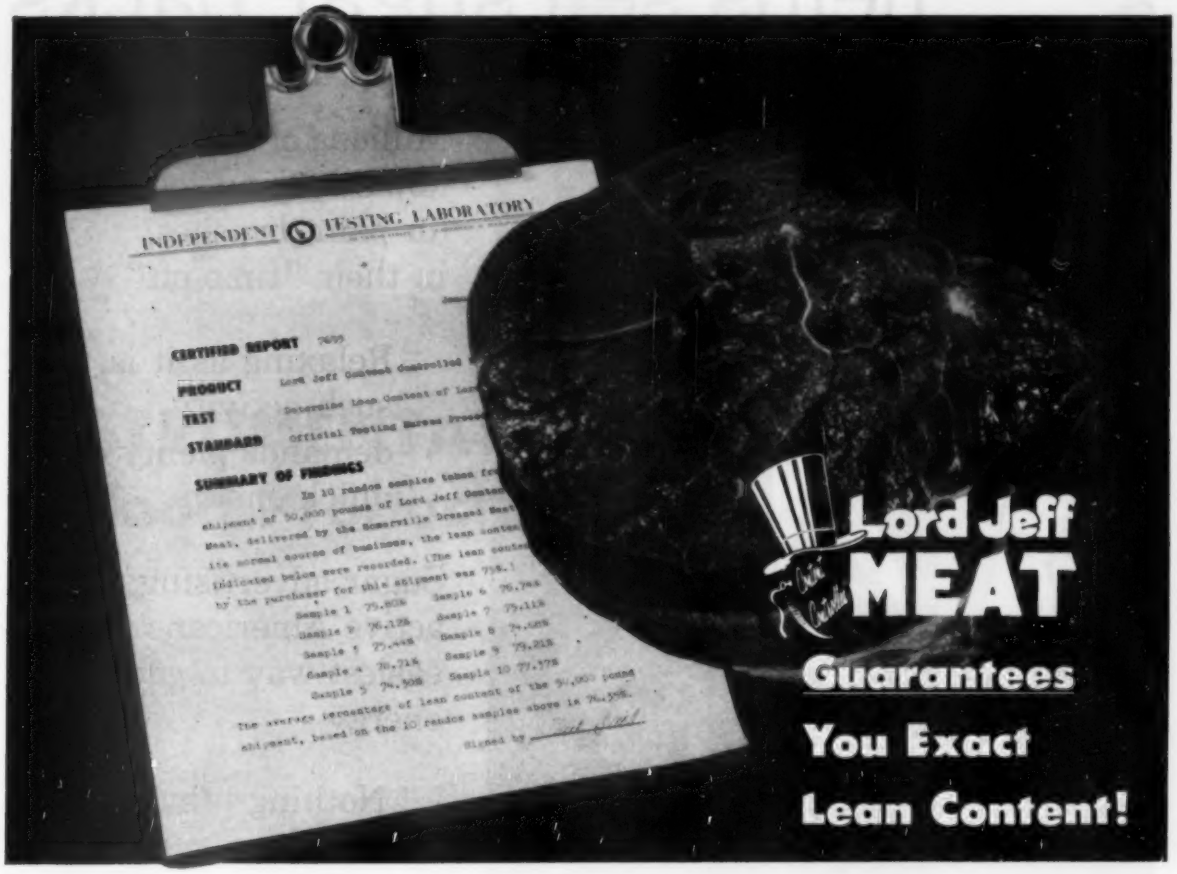


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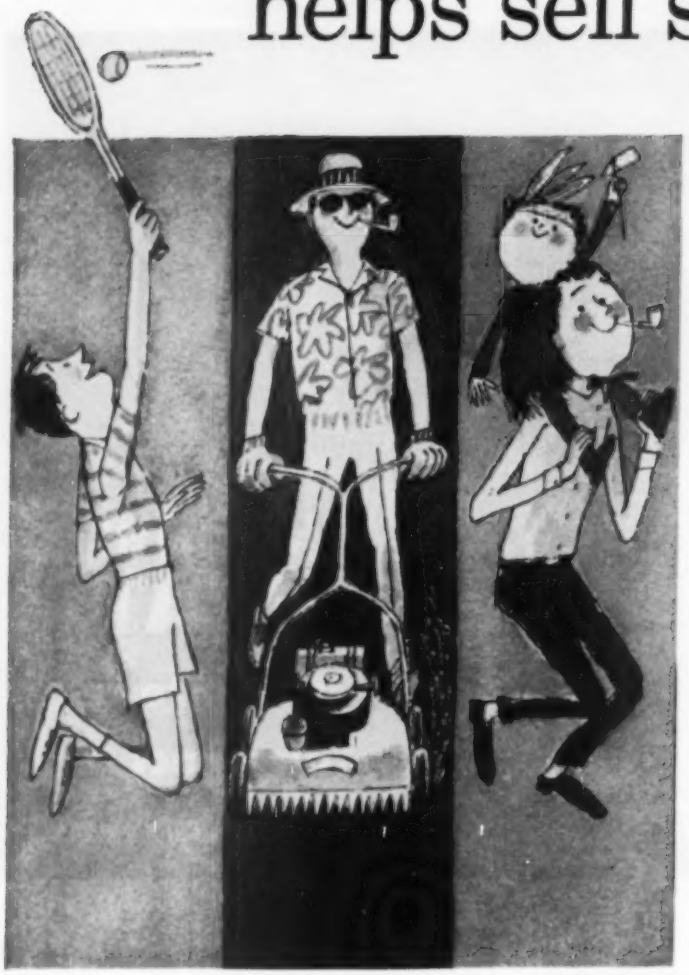

Millions of folks are now swinging golf clubs (or paint brushes) in their "time off"

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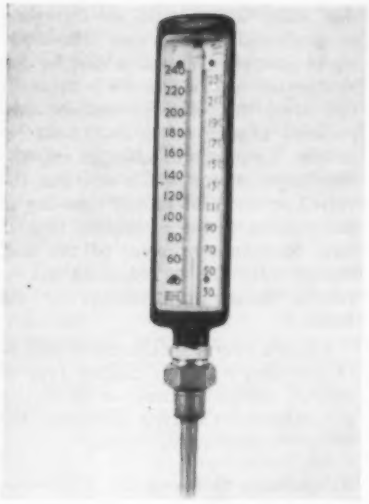


FIG. 1. Simple indicating thermometer.

FIG. 2. Dial-type indicating thermometer for remote reading thermal system.

# INSTRUMENTATION in Food Products Manufacture

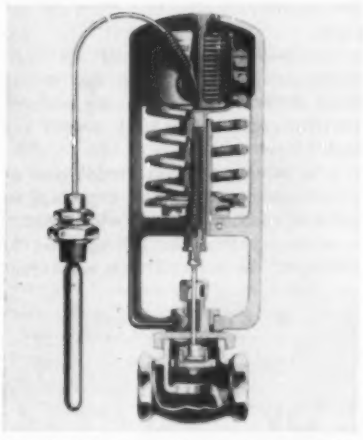


FIG. 3. Self-operated temperature controller.

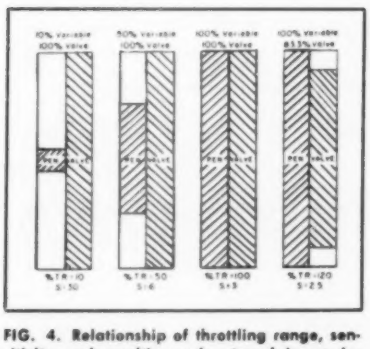


FIG. 4. Relationship of throttling range, sensitivity and resulting valve travel in an instrument with 4 inches of pen travel and a valve with a 12 psi operating range.

By HERBERT ROEMER

*Taylor Instrument Companies*

*Measurement and control are the foundations for high-speed, economical production of uniform, top-quality canned, dry, frozen and glassed foods. While control devices may be operated by springs, steam or water pressure, and by electricity, compressed air has widest application in the processed food field, and is given primary consideration in this article.*

*The author has actively served food packers for many years. His report was prepared under arrangements with Dr. Maynard Joslyn, now serving in a consulting capacity in Israel, and with J. Lawrence Heid, formerly editor of Western Canner & Packer and now with Cherry-Burrell Corp., Cedar Rapids, Iowa. The article is in two parts, appearing in the April and May issues.*

## USES AND TYPES

Instruments are used in food products manufacture to *measure, indicate, record* and *control* time temperature, pressure, level, velocity, volume, density, concentration, refractive index, consistency, viscosity, radiation, color, turbidity, etc. *Control,* instruments may be of three types: self operated (depending upon balanced pressures), air operated (using compressed air as the activating force), and electrically operated (using electric energy for operation of a solenoid or motor).

Temperature and pressure are the variables to which instrumentation is most commonly applied in food products manufacture.

### *Temperature Indicators*

The simplest and most commonly used temperature indicator is the visible column mercury-in-glass industrial thermometer (Fig. 1). The graduated scale is carefully matched to the position of the stem in the particular reading range. The stem is marked at two points so that movement out of position may readily be observed.

Temperature range and sensitivity are determined by the volume of the bulb relative to the diameter of the

Processing Technology Handbook

capillary through which the mercury level rises. The larger the volume of the bulb relative to the capillary stem volume the more sensitive is the thermometer but the greater the lag and more sluggish the response to changing temperatures.

The mercury-in-glass thermometer is best suited to measuring temperatures in a mass of fluid. The temperature indicated is that of the bulb surface and is subject to errors caused by heat conducted to or from the bulb by the tube and metal housing.

Industrial thermometers are supplied in two general forms. One is a portable, long stem thermometer with protective metal guard for manual measurement of temperature of products in open kettles or other equipment. Straight or angle-stem thermometers with suitably packed connections are used for installation in thermometer pockets or walls of vessels.

Dial thermometers are of two basic types; those having remote reading thermal systems; (Fig. 2) and the locally installed bi-metallic type. Thermal system dial thermometers are actuated by mercury, vapor, gas, and organic liquid. Changes in temperature at the sensitive bulb create pressure within the system which is transmitted thru a connecting capillary to a Bourdon spring, rotating the pointer. Thermal system type temperature indicators are more sensitive and are more rugged in construction than mercury-in-glass thermometers. They are not inherently as accurate.

### Temperature Recorders

Temperature recorders are provided with a strip, disc or other chart on which a stylus, actuated by a remote sensing element, records the temperature. Bulb or tube system elements are used to cover the range from −400° to +1200° F. As many as four temperature records may be recorded simultaneously on the same chart, using different colored ink, when necessary. Charts commonly cover 12 or 24 hours, or 7 days.

Electronic or potentiometer type recorders can record a greater number of temperatures on the same chart and also may be used for recording lower or higher temperatures than bulb type instruments.

### Temperature Controllers

Temperature control instruments may be of the tube-system type as described under "Temperature Recorders." A thermocouple or resistance thermometer bulb may be used with electric operated controller. The temperature controller may be self-operated, air operated or electronically operated. Self-operated controllers use the increase in gas or vapor pressure in a bellows to move the valve stem and a spring to oppose this force (Fig. 3). They are applicable only where control is not required and are not generally used for processing but for hot water heaters, storage tanks, etc.

Air operated controllers use clean, dry air at 20 psi. and are designed to protect a process in the event of failure of the air supply. Direct-acting controllers put out an increasing air pressure for increases in temperature. A direct-acting valve closes with increasing air pressure, and opens with an opposing spring.

Automatic control in air-operated instruments may be of the open-and-shut valve action type, or throttling or graduated valve action. The time-lag in controller operation may be due to inherent time lag in the instrument (the time that elapses between temperature change at the bulb and resulting air-pressure change on the diaphragm motor which operates the valve) or the conditional time lag in the process being controlled (lag in time between movement of the controlled valve and its effect on the resulting temperature change at the bulb).

Electric operated controllers may be of the simple off-on contact type to operate solenoid valves, or of the adjustable-sensitivity type operating electrically-driven motor valves.

### Responses Defined

The control mechanism for both the air-operated and electric-operated controllers varies in complexity from the fixed, high sensitivity (on-off control) to adjustable sensitivity with automatic reset and Pre-Act (derivative) control responses. These responses are made clearer with the following brief explanation of terminology.

*Proportional Response:* An output pressure change of a controller which is proportional to the deviation of the pen or indicating pointer from the set point.

*Sensitivity:* The ratio of the controller output change to the movement of the pen or indicating pointer. Usually expressed in p.s.i. output per inch of pen travel.

*Throttling Range:* The movement of pen or indicating pointer expressed in per cent of chart or scale width, which is necessary to cause full opening or closing of the valve. This is sometimes

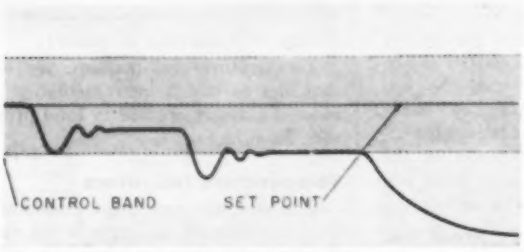



FIG. 5. Proportional response controller pattern.

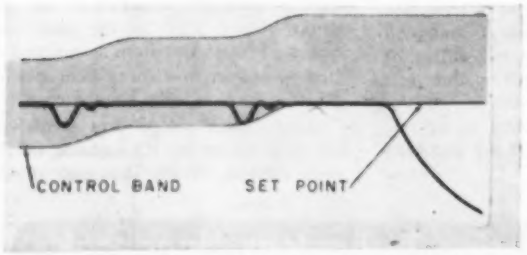



FIG. 6. Proportional pattern with automatic reset added.

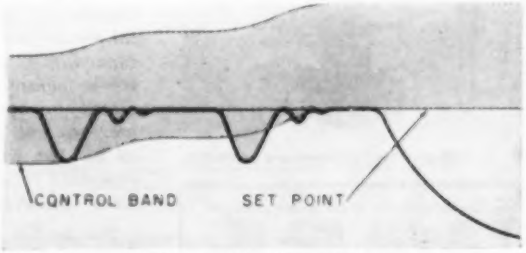



FIG. 7. Proportional plus automatic reset plus pre-act.

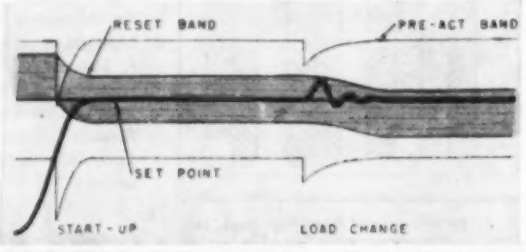



FIG. 8. Tri-Act controller pattern. Rate and automatic reset are in two different stages.

called "proportional band" or "control band."

*Automatic Reset Response:* An additional output pressure change resulting from a control point deviation which proceeds at a rate dependent on the proportional response. It acts in the same direction as the proportional response and continues until the set point and control point are coincidental.

*Pre-Act (Derivitive) Response:* An output pressure change, additive to the proportional response, which has a magnitude dependent upon the *rate* of the proportional response change.

Consider an instrument with 4 inches of pen travel and a valve with a 12 p.s.i. operating range. The graph in Fig. 4 shows the relationship of sensitivity, throttling range and resulting valve travel. (NOTE: As the sensitivity approaches lower values, or the throttling range increases, the control band widens).

*Proportional Response:* With proportional response controllers, as narrow a control band as possible is used to minimize offset due to load changes. Should a load change occur which calls for the valve three-quarters open, the process variable would drop down to a new control point. Another load change requires a wide open valve, etc. See Fig. 5.

*Proportional Plus Automatic Reset:* To eliminate this offset of the control point when changes in load occur, automatic reset is added. Its action detects any deviation between the set point and the control point and gives a continuous valve movement, in the proper direction to correct the offset. Fig. 6 shows what happens to the control band when reset is used with proportional response. It illustrates that automatic reset will move the band entirely above the set point when load changes require a wide open valve. Note also that when the variable is completely outside the control band, the band remains above the set point. This is the *evil* of automatic reset.

*Proportional Plus Automatic Reset Plus Pre-Act:* Fig. 7 illustrates the action which takes place when Pre-Act is added to the other two responses. Here we have a "good" effect in opposition to the "evil" of automatic reset, in that the deviation is smaller and recovery is faster.

Most conventional controllers are built so that if Reset is used there will be overpeaking of the control on start-up. To eliminate this, the "Tri-Act" controller operates with rate and automatic reset in two different stages—the rate response acting first. Fig. 8 shows the action of this type of controller.

A temperature controller usually operates a control valve, and may include accessory items such as reducing valves, pilot valves, automatic-to-manual switches and timers, in various combinations to achieve a particular control result.

## PRESSURE INSTRUMENTS

### *Pressure Indicators*

The basic measuring element for most pressure instruments is the Bourdon coil or C spring, which may be directly connected to the vessel or line of which the pressure is to be measured. The expansion or contraction of the coil, caused by changes in pressure, is transmitted through suitable linkage to operate the indicator or recording device.

There are applications in the food and processing industry where this conventional pressure gauge is not suitable, either for sanitary reasons or because the product being measured entering the actuating coil would render the instrument inoperative.

For such applications a volumetric type pressure measuring instrument is used. The volumetric pressure instrument consists of a bulb or flexible diaphragm connected by a length of capillary tubing to the coil in the instrument, this system being completely filled with a suitable liquid so that pressure on the bulb or the flexible diaphragm causes the coil within the instrument to expand. A common application of this type is for measurement of pressures on homogenizers.

### *Pressure Recorders and Controllers*

Recording and controlling systems used in pressure (and other) instruments are similar in principle and design to these employed in temperature instruments and were described in connection with temperature regulators.

## TIMING INSTRUMENTS

Measurement and control of time plays an increasingly important part in the food processing industry.

One form of timing device is not unlike the simple timer used by the housewife, except that it is automatic. A process timer may be used with a temperature control instrument in such a manner that timing will not start until a given temperature point in a process has been reached. When the specified time has elapsed, the timer will automatically terminate a process or perform other functions.

More complex timing operations are performed with a Timed Program Controller, wherein a series of functions can be performed in sequence in a preset pattern. Another variation of the Program Controller is the Time Schedule Controller in which desired changes in a process variable can be cut on a cam and the instrument controls the process in accordance with the predetermined schedule dictated by the cam.

A typical application of the time schedule controller is the cereal cooker in a brewery, in which the temperature must be raised to some given value over a given time at a definite rate. At a certain point, the temperature may be held constant for a period of time, after which it is again increased in accordance with a preset relationship. The entire process may be cut on a cam and the cam becomes the temperature controller set pointer so the controller automatically changes the temperature in accordance with the predetermined schedule.

## LEVEL INSTRUMENTS

The simplest method of measurement of liquid level is with the conventional float, which can be adapted to control level by attaching the float rod to a butterfly type valve regulating liquid entering or leaving the vessel. This method is somewhat limited in application because of the relatively small amount of force which can be developed by a float. In order to increase the work which can be done, the float rod is very often used to actuate a relay valve which in turn controls a supply of compressed air to operate a diaphragm valve. (Fig. 10.)

The pilot valve system overcomes most deficiencies of the float method of controlling level. However, the problem still exists of material adhering to the float, changing its weight and therefore its bouyancy, with resultant changes in the level which it indicates or controls.

A more satisfactory method of measuring level is by use of an air bubbling system, which works on the principle of measuring on a sensitive pressure instrument the pressure required to force air through the liquid —this being proportionate to density and depth. By selection of proper pressure measuring devices, the level can be measured within small fractions of an inch.

Air bubbling measurement, again, is inadequate if the material being measured is very viscous or contains a high percentage of soluble solids (such as tomato products). Level of such products may be determined by using water instead of air, measuring the pressure required to force the water into the product. There are also liquid level transmitters which measure pressure on a small diaphragm, mounted in the vessel at the point

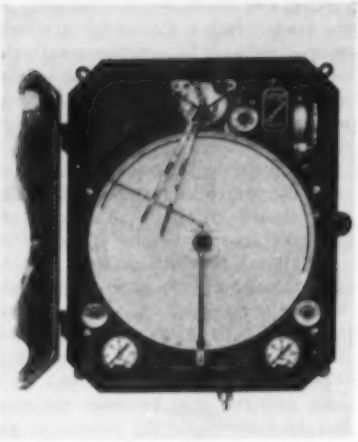


FIG. 9. Air-operated recording temperature controller.

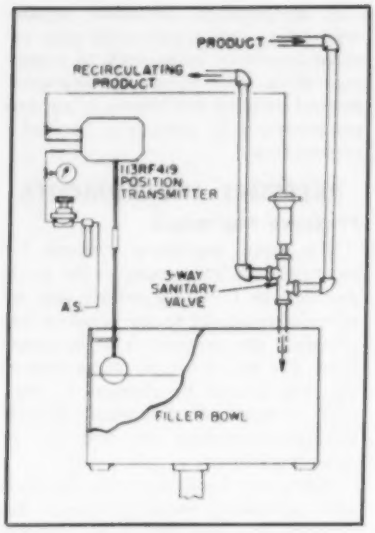



FIG. 10. Instrumentation for maintenance of liquid level. Float is connected to relay valve.

which the level measurement is desired.

In using the air bubble or water method or the diaphragm level transmitter, the level measurement will be affected by the specific gravity of the material, since these methods actually measure the hydrostatic head and are not a true measurement of level.

Another level control device commonly used in the food processing industry is the electrode or "probe" type level measuring instrument. This instrument operates on the principle of allowing the liquid to conduct a current between a series of electrodes which are placed at different levels. It is essentially an "on-off" control instrument because it will give an electric signal only at those points of level where the sensing electrodes are submerged.

## FLOW MEASUREMENT

The measurement, recording and control of flow become more important as processing procedures become more complex. Flow measurement is also a very important consideration in allocating costs between various departments and in analyzing over-all plant efficiency.

The orifice or venturi meter is the most commonly used flow measuring device for steam, gas and clear liquids. This method of flow measurement is based on putting a restriction in the line carrying the product to be measured, and measuring the pressure drop caused by this restriction.

Flow in an open trough or flume is measured in a similar manner by employing a weir restriction. The level of the product passing through the weir indicates the total flow.

The rotometer consists of a calibrated, vertically-mounted glass cylinder through which the product flows upward. Within the cylinder is a float and flow is proportional to the amount this float is raised in the cylinder, which is calibrated to read amounts of flow (or g.p.m.).

Still another method used for measuring flow is the magnetic type flow meter in which the product is passed through a magnetic field and an electric measuring device measures the lines of magnetic flux cut by the fluid, this being proportionate to flow.

Rotometers and magnetic type flowmeter are useful in measuring flow of fluids containing solids in suspension, consequently not readily measured by orifice or venturi meters.

Flow is sometimes measured volumetrically by using a self-dumping tank or hopper of known volume equipped with a counting device.

## SPEED

Automatic control of speed is particularly applicable on continuous processes for regulating a level or density of a product by changing the inflow or outflow. The rate of flow is varied by changing the speed of a positive displacement pump in the system. The most conventional system uses some type of vari-drive on the motor, the motor speed being automatically controlled by a variable such as level or density. The measuring instrument transmits a signal to a control device on the vari-drive to adjust pump speed as required. Speed is also measured by tachometers which measure revolutions of a shaft.

## VISCOSITY AND CONSISTENCY

Continuous measurement of viscosity is difficult. The basic principle of most viscosity measuring instruments is the measurement of pressure differential across a calibrated length of tubing. This varies with the pressure and temperature of a product as it is pumped through the calibrated tube; and these two values must be held within close tolerance if the measurement of viscosity is to be reliable.

Often the actual value desired is not pure viscosity but rather consistency. Consistency is relatively easy to measure on a laboratory basis but it becomes difficult to get accurate measurement and control in plant operation. One device widely used for laboratory measurement is known as the Consistometer which measures the relative force required to push a paddle through the material. A sample of the product in a container is put on a constant speed revolving table and the paddle is inserted in the material. This paddle is directly connected to a pointer on a dial which is spring loaded. The spring load indicates the resistance of the paddle to the turning action and the pointer on the dial will give a reading of consistency.

This sample principle is applied on a production basis in the De Zurik controller in which a paddle or agitator is installed in the tank and rotated by a motor mounted on a ball bearing turntable. A change in the consistency of the product will be reflected by a corresponding change in the torque of the agitator. This change in torque may be used to actuate a pilot valve to increase or decrease addition of a thinning dilutant.

### *Density*

Density is the ratio of mass to volume of a fluid. The simplest instrument for measuring it is perhaps the hydrometer spindle, which may be calibrated in convenient terms for specific applications (as sucrose content in pure sugar syrups). The density of a liquid varies with the temperature, so measurements must be made at a standard temperature or suitable corrections must be applied.

Density of liquid products of relatively low viscosity may be measured by bubbling air through a column of the liquid, maintaining a constant level or column height and a constant temperature so the pressure against the incoming air will be proportionate to the density (Fig. 11). If the instrument is calibrated to read in percentage of sugar, the accuracy will be affected by the presence of other solutes such as salt, organic acids, etc.

Density measurement may also be based upon weight of a vessel filled with the liquid, which may be flowing in and out continuously at constant

level. Motion of the scale beam can be used to indicate or record the density of the contents of the vessel at a specific moment. Here again temperature control is essential for significant results.

Another factor in continuously measuring density in plant operations is the difficulty of securing representative sampling of products subject to appreciable variation. If samples are not truly representative, the significance of readings is correspondingly reduced.

### *Refractive Index*

Refractometers measure the angle through which a beam of light is bent in passing through a thin layer of a liquid.

This is useful in determining the purity and condition of essential oils, and may also be used in estimating the soluble solids content of such liquids as sugar and salt solutions and fruit juices and concentrates, provided suitable reference tables are available and corrections are applied to compensate for temperature variations and for the presence (quantitatively) of acids in fruit and vegetable juices.

Although refractometers are built directly into evaporators used in manufacturing syrup, and are used in the field for estimating the maturity of fruits, they are ordinarily considered as laboratory rather than production instruments.

### *Miscellaneous Measurements*

Measurement and control of such factors as conductivity, pH, color, and turbidity are becoming increasingly important in the food industry. Specialized instruments have been developed for measuring, recording and controlling these and other variables.

One instrument for measuring color uses a gas discharge tube for illuminating the sample, a Corning glass filter for isolating a selected monochromatic light source, and a vacuum photo tube and electronic amplifier for measuring reflected mono-chromatic light intensity. This instrument is a color comparison device and is widely used for grading products such as tomatoes and lima beans in which color is an important factor. In States with laws which regulate the grading of products based on color, instruments of this type are indispensable.

Color instruments have been adopted by both California and Canada and are being used as the official instruments for grading raw tomatoes objectively, by measurement of the color of the cut sides of a sample of the raw product.

(Concluded next month)

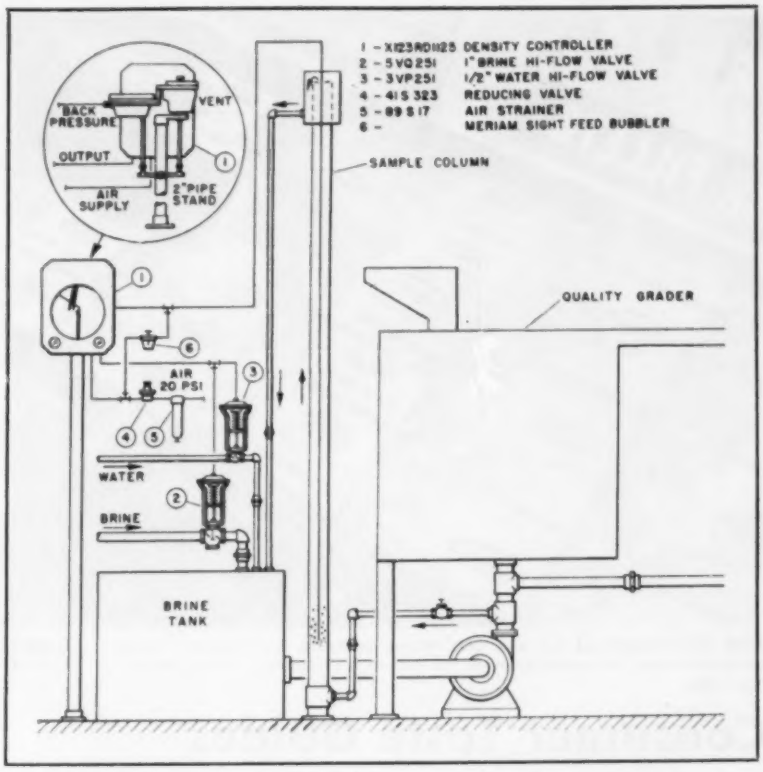



FIG. 11. Density control for a quality grader.

## Processing Technology Handbook Series

This is the 22nd of a series of articles appearing in CANNER/PACKER and in a predecessor journal. Single copies of many of the earlier articles are still available at 25c each, and a reprint of the first 14, plus No. 16, may be purchased for $1.50. Subjects covered to date include:

| Article | Date |
|---|---|
| 1. Water (Joslyn/Heid) | Sept., 1955 |
| 2. Steam (Joslyn/Heid) | Dec., 1955 |
| 3. Salt (Joslyn/Heid) | Feb., 1956 |
| 4. Metal Containers (Joslyn/Heid) | April, 1956 |
| 5. Crop Contracts (Gilchriste/Lane) | May 25, 1956 |
| 6. Sugar (Miller/Mattice/ Lloyd/Junk) | June, 1956 |
| 7. Ionizing Radiations (Huber/Heid) | Aug., 1956 |
| 8. Corn Sweeteners (Lewis) | Oct., 1956 |
| 9. Glass Contaniers (Wright) | Dec., 1956 |
| 10. Concentrating & Drying (Joslyn/Heid) | Feb., 1957 |
| 11. Electricity (Spain) | April, 1957 |
| 12. Cost Accounting (Mayhew) | May 25, 1957 |
| 13. Quality Control (Kramer) | June, 1957 |
| 14. Research & Development (Heid) | Aug., 1957 |
| 15. Enzymes (Joslyn) | Nov., 1957 |
| 16. Special Ingredients (Siemers/Rockwell) | Jan., 1958 |
| 17. Vegetable Crops (Woodroof) | Mar.-Apr., 1958 |
| 18. Flexible Packaging (Ball) | May, 1958 |
| 19. Financing (Mayman) | May 25, 1958 |
| 20. Flexible Packaging II (Ball) | July, 1958 |
| 21. Plant Safety (Westerman) | Oct.-Nov., 1958 |
| 22. Instrumentation (Roemer) | Apr.-May, 1959 |

**BOLD NEW DESIGN** of the new Blue Water Seafoods is intended to attract attention forcefully—and yet appealingly in the frozen food counter. The package was planned that way.

# Consumer Taste Guides Design of Frozen Fish Line

## *Bluewater Seafoods of Cleveland check every detail in the package design for seventeen fish products*

Few packers and processors have ever undertaken such a complete and detailed design change—across a line of seventeen or more packages, with a precautious eye on each and every detail, as has the Bluewater Seafoods Division of Fishery Products of Cleveland, Ohio, in their entire new line of frozen seafoods.

Marathon, A Division of American Can Co., Menasha, Wis., worked very closely with Robert Gruber, president, Blue Water, on redesigning the entire line of rotogravure-printed Glamakote overwraps. Every possible bit of information relative to modern packaging was employed. Bob Gruber's years of experience with packaging, merchandising and distributing fresh and frozen seafoods was made available to Marathon's creative artists. Marathon also used its extensive library of hidden camera shopper films to develop key design elements that shoppers are known to look for in a package. Personal interviews with thousands of shoppers all across the land have given Marathon a comprehensive picture of what necessary and vital information shoppers require on a package.

After six months of study and creative artistry, the entire Blue Water line is rotogravure printed on Glamakote overwraps for seventeen varieties of frozen seafoods. The designing has followed every possible angle to answer the questions in the shoppers mind—to convince her—to sell her.

**Family Design:** The entire line follows the same identical motif—a soft yellow cross-hatched background which fades with vignette-effect as it approaches the pictorials. This gives the pictorials a third dimension look and makes them stand out with much more appeal, more taste-tempting. Brand name, product identity, price mark and other information are consistent throughout the line.

**Brand Name:** The Blue Water trademark appears strongly in exactly the same spot—the upper left corner of the main panel of every design. White reverse copy against a deep blue oval background, all set off by a red border, gives a modern effect to the redesigned logotype.

**Product Variety—Sizes:** In each group of sizes within the line, product identification is uniform. All of the species—haddock, sole, flounder, ocean perch and cod, are easily identifiable. Family-size packages are further indicated by a solid bar, with copy, running horizontally across the main panels.

Filets of haddock, perch and cod are offered in the 2¼ 1 lb. family size, all boned and ready to cook. These 2¼ lb. items contain three separately wrapped sections—allowing the housewife to use only part of the product at one meal if she desires—then retain the balance in home storage.

Filets of cod, haddock and sole are also packed in a 14 oz. size family package—each with six uniform servings, boned, portioned, breaded and ready to fry. Here then, are two sizes of family-size packages—real versatility aimed at pleasing the housewife.

Fish sticks of cod are available in two 14 oz. packages — one breaded and golden fried, needing only preheating before serving — the other breaded but ready to fry. There are 16 sticks in each package. An interesting concept employed in these two packages is that identification copy and the family-size bar on the heat 'n eat package are printed in red—on the ready to fry package, they are printed in blue. This is an added feature designed to aid the housewife in recognizing the difference between the two items.

Blue Water recognizes—and is making a determined effort to solve—the problem of the irate housewife who has purchased a package of seafood believing it needs only brief oven heating, but then learning it requires deep frying or at least considerable pan frying.

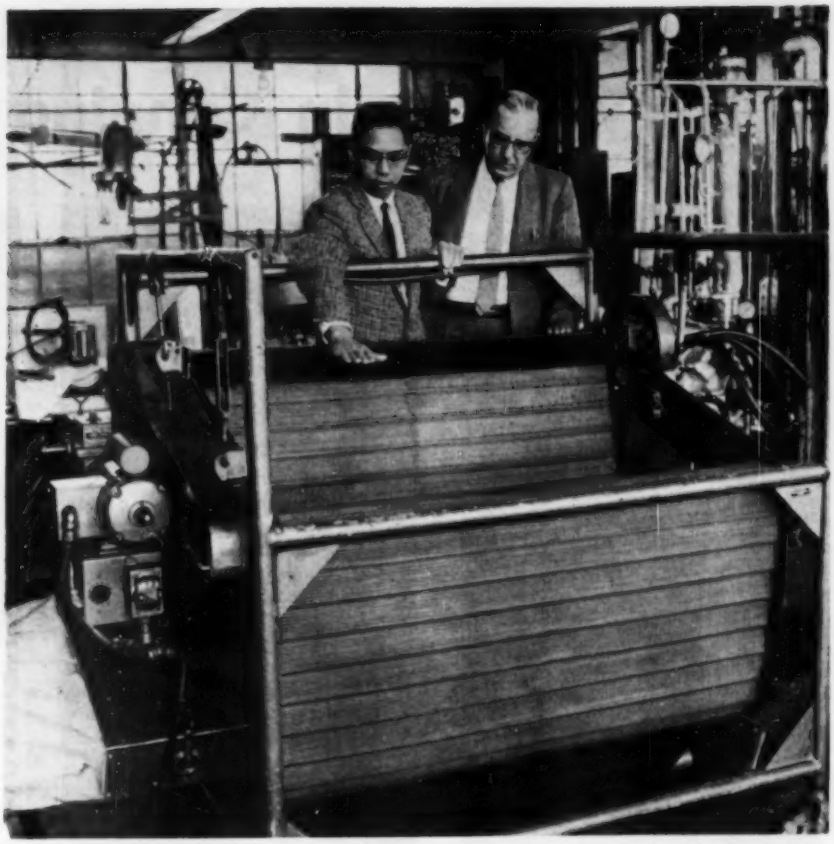
Haddock steaks are also available in a 14 oz. package. This is a heat 'n eat item, too, with red copy on identity bar on the main panel.

One lb. filet units are packed for flounder, cod, sole, ocean perch and haddock. All of these are boned and ready to cook. The already established pastel fishes of the Blue Water design are retained and utilized as background for this group.

**Uniform Design Elements:** The entire Blue Water line has achieved good results here. Price mark and weight and/or count boxes are in the same location on every package. The housewife can spot many key points in an instant on any of the packages—even in mass display.

# Steel Conveyor Belt Used in New Dehydrater

## *USDA–U. S. Steel development is used in eight drying plants*



**PILOT PLANT from which commercial dehydration equipment evolved is examined by Edison Lowe (left), U.S. Dept. of Agriculture research engineer, and Ted McKinley, conveyor specialist with Cyclone Fence. Mr. McKinley supervised development of the new USS stainless steel wire belt which made the improved drying method possible.**

A development in the design of stainless steel wire conveyor belts has made possible an improved method of dehydrating fruits and vegetables. So successful has the method proved that eight of the new dryers are now installed in plants in California and Washington to replace older tray-drying operations.

The conventional dehydration method is to spread the product on wooden trays and then to pass these through tunnels, while heated air is forced through the chambers by means of blowers. For some time technologist at the WUR Laboratories of U. S. Dept. of Agriculture have been seeking improvement in this type of procesing, both for production of regular dried foods and also for the partial drying required for dehydro-freezing and dehydro-canning.

USDA studies indicated that a continuous conveyor type of dehydrater was feasible, but only if a wire belt of satisfactory design could be found. A search among available products revealed none that would make the technique commercially practical.

At this point, U.S. Steel Corp.'s Cyclone Fence conveyor belt specialists become interested in the project, and began experimenting with different possible designs. Ultimately they perfected a continuous stainless steel wire belt that promised to handle the work satisfactorily.

The new conveyor consists of a special woven wire with chain-drive construction. Free circulation of air is permitted, and yet losses of product through the mesh are virtually eliminated. Stainless steel construction insures long life and protection against corrosion (both from juices and from chemicals used in processing), plus ready washing with spray-gun cleaners.

In operation, the conveyor forms a moving trough to hold fruits or vegetables while heated air is forced up through belt openings. So far the equipment has been tested on such items as apples, carrots, peppers and potatoes, both where dehydration alone has been the preservation method, and also where it has been combined with canning or freezing.

These trials have shown that the new dryers reduce moisture content quicker, performing in about one hour the work which requires from four to five hours with the older equipment. The new technique also is said to retain natural color and flavor more successfully. In addition, it does away with the problem of food stickings to wooden trays, and of the occasional sliver of wood caused by scraping the trays.

A U.S. patent has been applied for on the belt.

# 20 New Ideas in Canning Equipment

Many of the improvements in processing machinery shown at the canners' show, were in the areas of materials handling and container filling. Machinery tended toward simplified, specialized jobs at greater production speeds.

The canners' show was held by the Canning Machinery and Supplies Assn. in connection with the convention of the National Canners Association in Chicago, Feb. 20-23.

**Improved**—The Burt case packer was displayed by the Burt Machine Co., Baltimore, Maryland.

**Advantages:** The operator is able to place the case over the funnel chute, which then tightens outward to hold the case in position.

A two-layer case is filled with a single plunge, and then upended without any manual effort.

**New**—A Clipper pea grader, operated last summer, was exhibited by A. T. Ferrell and Co., Saginaw, Mich.

**Advantages:** Compact unit requires 51 sq. ft. of floor space plus room for shaft projections.

Screens remove larger size progressively, the largest size taken off by top screen. Up to five grades can be separated.

**New**—A machine, only recently adapted to dry beans, is this cleaner of the W. A. Rice Co.

**Advantages:** Removes stone, dirt, chaff and leaves, etc., from dry beans before they enter the soak tanks.

Separation of smooth beans from imperfect beans is possible since the principle of separation is the surface texture of the bean.

**New**—Crompton & Knowles Packaging Corp., Holyoke, Mass., showed an empty can depalletizer for the first time.

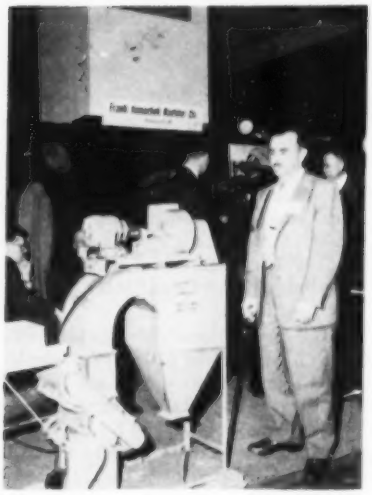
**Advantages:** Can handled most efficiently on pallets can be unloaded and single-filed into can track by a single operator.

**New**—A. K. Robins, Baltimore, Md., exhibited a new shaker-screen washer, equipped with high pressure spray nozzles and a two-level "turnover" table.

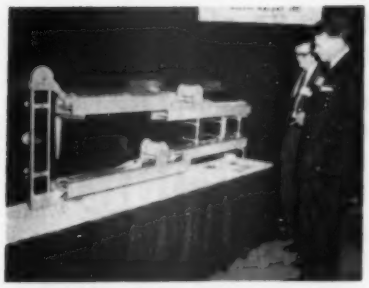
**New**—A seamer for can manufacturing use, model 94P, was shown by Angelus Sanitary Can Machine Co., 4900 Pacific Boulevard, Los Angeles, Calif.

**Advantages:** High speed seamer for attaching metal ends to rectangular bodies of cans from ½ gal. to 2 gal.

Speeds up to 125 cans per minute.



**New**—An air-cleaner which pneumatically separates light or defective products was exhibited in the booth of Frank Hamachek Machine Co., Kewaunee, Wis., by the manufacturer, Commercial Manufacturing and Supply Co.



**Improved**—Vibrating tube conveyors for use in moving dry materials were exhibited as models in the booth of the Allen Fruit Co., Inc., Newberg, Ore.

**Advantages:** Imbalanced flywheel causes oscillatory movement in horizontal aluminum tubes.

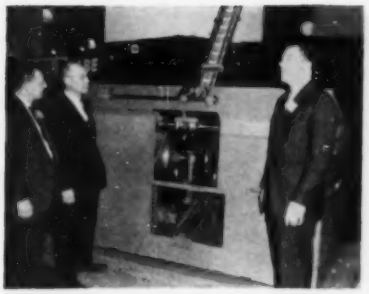
**New**—Extrusion presses for tube, dry food containers and non-foods such as oil, were exhibited by the Transmares Corp., 15 William St., New York City. The manufacturer is a German company, L. Schuler AG.

**Advantages:** Fully automatic. One operator for several machines.

Components formed by presses can be thread-rolled, trimmed and beaded, automatically.

**New**—Flow measuring device, still in the experimental stage, was part of the exhibit of the Taylor Instrument Co., Rochester, N. Y. Instrument is for use in measuring materials with solids in suspension, soups and juices.

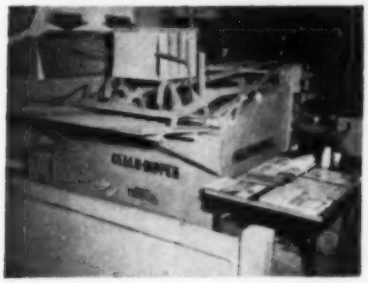
**Advantages:** Sanitary construction using a wedge orifice element and diaphragm construction transmitter which eliminates need for purging the differential pressure sensing lines.



**Improved**—Square can flanger was exhibited by Max Ams Machine Co., Bridgeport, Conn.

**Advantages:** A new conception of flanging produces a uniform flange.

Speeds up to 250 cans per minute are possible.

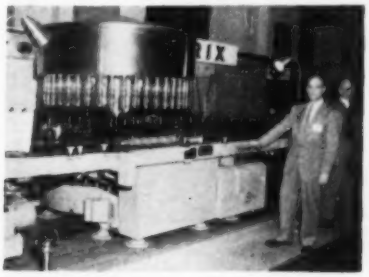


**Improved**—A dipping machine for wooden boxes was exhibited by the Cellu-san Div. of Darworth Inc., Simsbury, Conn.

**Advantages:** Dip boxes faster, with more even spread.

Less liquid needed to reach full dipping level.

With addition of water circulating system, it can also be used for washing boxes.



**Improved**—Horix Manufacturing Co., Pittsburgh, Pa., exhibited a new 44-valve filler for quart bottles.

**Advantages:** New fluid drive with synchronized air-powered brake.

Automatic supply valve controlled by movement of filler.

Electronic safeties are included in this filler. It is lubricated automatically.

**Improved**—The angle disintegrator for high-speed finishing of fruit nectars and concentrates, baby foods, etc., was displayed in the booth of the Rietz Manufacturing Co., West Chester, Pa.

**Advantages:** The improved machine is easier to disassemble, easier to clean.

It is simply constructed, low priced and rugged.

**New**—A hopper truck with a dump attachment was exhibited by Scott Viner Co., 1224 Kinnear Road, Columbus, Ohio.

**Advantages:** The hopper cart can be attached to a pea and lima bean harvester so that the hopper is always beneath the spout.

The hopper can be dumped at any height from 6 to 9½ feet.

While the unit was designed specifically to follow the Scott combine, it can be used on other mechanical harvesting equipment.

**New**—Model "RA" dicer manufactured by Urschel Laboratories, Inc., Valparaiso, Ind., was displayed for the first time.

**Advantages:** Versatile machine may be converted to a slicer for lengthwise cuts.

Pieces are cut clean and uniform. Pulleys, gears, belts are furnished with machine for changing speeds.

**Improved**—Piston type, Votator filler designed for handling viscous fluids was exhibited by Girdler Process Equipment Div. of Chemetron Corp., Louisville, Ky.

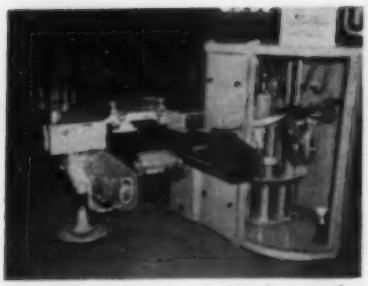
**Advantages:** Precision adjustments can be made on piston cam, while machine is in operation.

Spillage is kept at a minimum because of low centrifugal force.

**Improved**—Food Machinery and Chemical Corp., Hoopeston, Ill., showed a redesigned, 18-Valve gravity flow filler for relatively high speeds.

**Advantages:** Can lift cam permits the vent tube of the valve to drain completely before can leaves machine.

Speeds up to 350 cans per minute. Worm-belt feed.



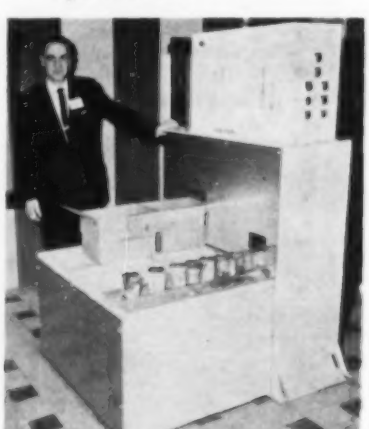
**Improved**—A rotary air cleaner for containers on a filling line was demonstrated at the booth of the U.S. Bottlers Machinery Co., 4015 N. Rockwell St., Chicago, Ill.

**Advantages:** Speeds possible up to speed of filling line.

**New**—A screw-top baby food cap was shown by the Aluminum Company of America, 1501 Alcoa Bldg., Pittsburgh, Pa.

**Advantages:** Sure vacuum sealing of cap.

Baby food jar can be opened easily by hand. Jar can be closed tight after use.



**New**—Shuttleworth Machinery Corp., Warren, Ind., exhibited a new type of case packer for tin, glass and some paper containers.

**Advantages:** Handles wide variety of containers.

Can be changed from one size to another in minutes.

Requires less than 20 sq. ft. of floor space.

## Swift Re-elected Head of CM&SA

### Officers of Groups Named During NCA Convention

#### Canning Machinery & Supplies Association

PRESIDENT—John C. Swift, White Cap Co., a subsidiary of Continental Can Co., Inc., Chicago, Ill.

VICE PRESIDENT — William E. Vaughn, American Can Co., New York City.

SECRETARY - TREASURER — W. D. Lewis, Washington, D. C.

ASSISTANT TREAS.—Jeanne Savin, Washington, D. C. (all re-elected)

#### Forty-Niners

PRESIDENT — Frank S. Langsenkamp, F. H. Langsenkamp Co., Indianapolis, Ind.

VICE PRESIDENT—Edward E. Judge, The Canning Trade, Baltimore, Md.

SECRETARY-TREASURER—Charles E. Schick, Waukesha Foundry Co., Waukesha, Wis. (all re-elected)

#### Old Guard Society

PRESIDENT — Nicholas J. Janson, Nicholas J. Janson, Inc., Cincinnati, Ohio.

1ST VICE PRESIDENT — Robert L. Eirich, H. S. Crocker Co., Inc., Baltimore, Md.

2ND VICE PRESIDENT — Fred M. Moss, Idaho Canning Co., Payette, Idaho.

SECRETARY - TREASURER — John Dingee, Haddonfield, N. J.

#### Young Guard Society

PRESIDENT—Tyrus R. Young, Chas. G. Summers, Jr., Inc., New Freedom, Pa.

1ST VICE PRESIDENT — Robert B. Connelly, American Can Co., Indianapolis, Ind.

2ND VICE PRESIDENT — David J. Nay, Selected Spices, Inc., Detroit, Mich.

3RD VICE PRESIDENT — A. W. Dutcher, John H. Dulany & Son, Inc., Fruitland, Md.

SECRETARY - TREASURER — Herb Shek, H. S. Crocker Co., Inc., Baltimore, Md. (re-elected)

RECORDING SECRETARY—Arthur J. Judge, The Canning Trade, Baltimore, Md. (re-elected)

### National Canners Assn.

All new officers and directors of the National Canners Association are listed on page 70 of this issue.

# Package Improvements Highlight Freezer Show

Most of the exciting developments at the freezers' show were in packaging. A move toward improved cartons, better printing, and a one-unit container was shown. Innovations in equipment were for greater speeds and for making new packages.

The show was held in connection with the National Association of Frozen Food Packers convention in Chicago, March 1-4.

The nation's frozen food industry has some great things in store for the American consumer. Some of these things—together with the more complicated arrangements for getting them on the dinner table were up for viewing and discussion at the 18th Annual Meeting of the National Association of Frozen Food Packers.

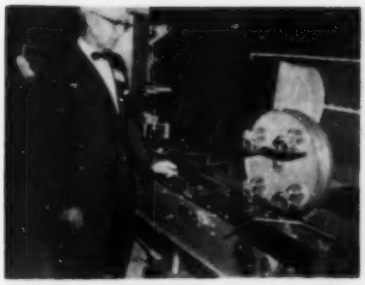
Some 3,000 frozen food packers and people who buy from them and sell to them attended the three-day meeting.

One of the highlights of the meeting was the unveiling of several new products and methods designed to take even more drudgery out of the housework. One of the most intriguing of these—being brought out by several frozen food packers—is a new line of foods that are boiled in a bag.

For the frozen food processors and their suppliers the 1959 convention was sparked by the new packages—and the machines that make them.

**New**—Marathon, Menasha, Wis., displayed its new Hi-Fi Glamacote cartons and overwraps.

**Advantages:** The new printing process brings brighter colors, surer reproduction to both the cartons for dinners, entrees, pies, etc., and to the overwraps for vegetable products.



**Improved**—The Chicago distributors of the Klicklok equipment, Chicago Carton Co., Chicago, Ill., displayed the latest carton-forming machinery.

**Advantages:** The press, with four arms instead of two, forms cartons faster, with smooth, uninterrupted motion.

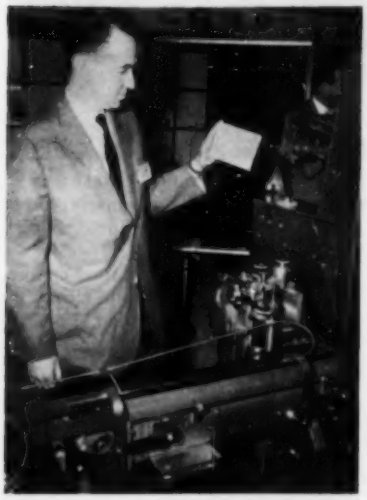
**Improved**—A vegetable carton which is formed on Klicklok machinery was shown by Container Corp. of America, Chicago, Ill.

**Advantages:** The bottom of the carton is water-tight, preventing any leakage from the vegetables from time of filling until freezing, if carton remains upright.

**Improved**—A mixing kettle for heavy materials was displayed by Groen Mfg. Co., 4539 W. Armitage Ave., Chicago, Ill.

**Advantages:** Scrapers take material from the side walls and pull it into secondary mixer.

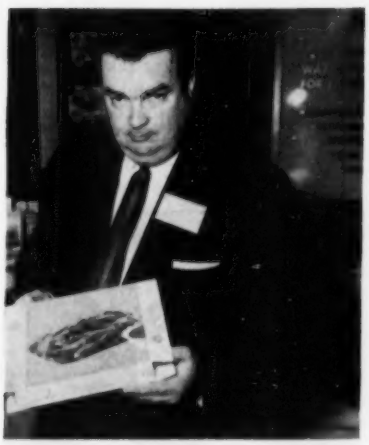
Sanitary design permits easy cleaning.



**New**—A carton imprinter for Klicklok cartons was displayed at the booth of Crown Zellerbach, San Leandro, Calif.

**Advantages:** Recipes, cooking instructions can be put directly on the carton, instead of on the overwrap, avoiding danger of loss when overwrap is removed.

Printed cartons are available without carrying printed carton inventory.



**New** — The Kieckhefer - Eddy Div., Weyerhaeuser Timber Co., 919 North Michigan Ave., Chicago 11, Ill., exhiited a new carton that was developed jointly with Ace Carton Corp., Chicago, Ill.

**Advantages:** A printed carton does away with overwraps. Cold wax coating covers printed surface.

**New**—An institutional food tray, ready for steam table was displayed by Ekco-Alcoa Containers, Inc., Wheeling, Ill.

**Advantages:** Frozen food can be cooked in container and moved to steam table for serving. Food is not moved from container until serving line.

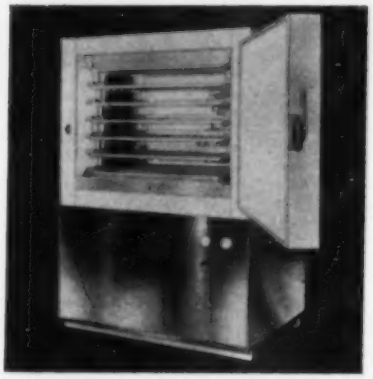
**New**—The Plastomatic Corp., Malvern, Pa., displayed a polyethylene container that had been released only a few days.

**Advantages:** This container has new sealing and opening features. A polyester film is fastened over the top of the container to close it. Film is sealed to a bead around lip of the container. When opened, bead tears away from container body.

**New**—A carton that permits products to be packaged in a single-unit container was shown by Mead-Atlanta Paper Co., Atlanta, Ga. Both the carton and the machinery to make it are called "Expresso."

**Advantages:** A plastic laminate on the food board is sealed first as a thin end-strip. Then the conventional cover flaps are heat sealed, making carton air tight.

Carton eliminates need for inner and outer liners and overwraps used for protection.



**New**—A manually-operated, double-contact plate freezer was exhibited for the first time in the booth of the Dole Refrigerating Co., 5910 N. Pulaski Road, Chicago, Ill.

**Advantages:** Much less costly than an automatic plate freezer. Suitable for low volume operation now handled by a cold room or blast tunnel.

Freezes up to 2,500 lbs. per hour depending on product, package and size of freezer.

**New**—A machine called the Cluster-Wrap packages several square or rectangular products in a single container. The system was developed and displayed by Mead-Atlanta Paper Co., Atlanta, Ga.

**Advantages:** Replaces hand packaging methods for frozen foods. Brings mechanization to multi-unit package.

**New**—The Reynolds Metals Co., Richmond, Va., displayed a machine developed jointly by Reynolds and Hayssen Manufacturing Co. for crimping aluminum foil covers on aluminum containers.

**Advantages:** Automatic operation, firm crimping on round corners. Less foil required.

**Improved**—The printed cartons of the Southerland Paper Company, Kalamazoo, Mich., were displayed.

**Advantages:** Vapor barrier withstands water loss successfully even from cream pies.

Improved printing surface is able to reproduce product accurately.

**New**—Reynolds Metals Co., Richmond, Va., displayed several "dream packages" which were developed for the exhibit. One was this cook-in aluminum carton.

**Advantages:** Food can be cooked and served in the carton. Carton contains 6 oz. instead of 10 oz., and is intended for two persons.

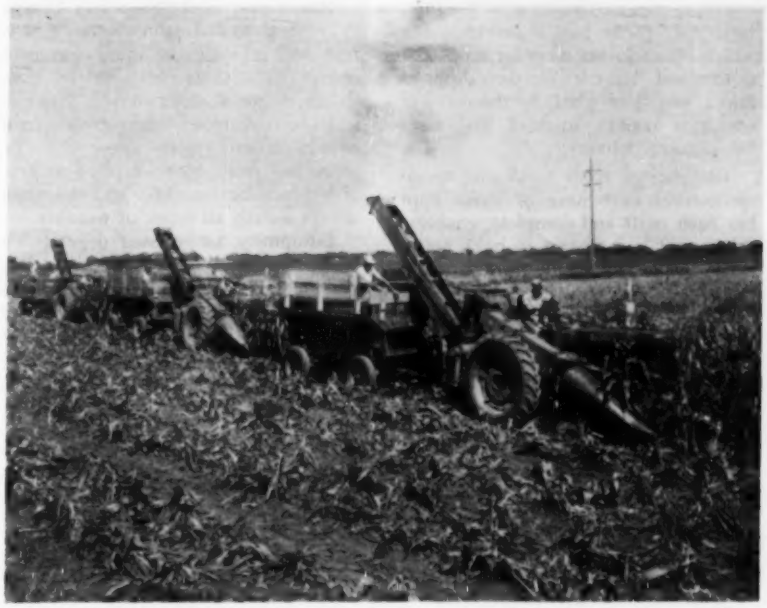
The vegetable carton also would have the same advantages of other boil-in bags: no pots to wash after cooking.

RAW PRODUCTS

# CORN for Canning and Freezing

*In recognition of the vital role played by processors' fieldmen, CANNER/PACKER presents the first of a series of "Raw Product Round Tables." This series will draw upon the knowledge of fieldmen themselves, and also upon scientists in firms concerned with raw product equipment and supplies.*

*This first article on corn will be followed, a few months hence, by one on peaches, and later by reports on tomatoes, apples and other basic raw materials. Readers who have information on these subjects are invited to send in their comments.* Ed.



**MECHANICAL HARVESTERS have improved both sweet corn picking and processing operations.**

## Fieldmen Can Help Grower Income

By W. D. TYLER

*Agriculture Manager*
*Curtice Brothers Co.*

Sweet corn processors have an unusual opportunity to increase the attractiveness of sweet corn for the grower. Well trained fieldmen, working constantly with growers, are a feature of our industry and provide an advantage over many other phases of agricultural production. Through education, experience and observation, the fieldman dealing with two to four crops becomes truly an expert.

Economic pressures requiring close attention to costs in both growing and processing are well understood. A most desirable way to lower unit costs and increase grower profits is to obtain a greater yield per acre. The modern fieldman understands well the techniques that result in high yields. Starting with the good growers that he should select he can induce them to plant sweet corn on suitable land and persuade them to follow the desirable cultural practices that produce top yields.

Karl Dilcher was the 1958 New York State Junior Vegetable Grower's Association Canning Crops Contest winner with his sweet corn project. He carefully followed the recommendations of our fieldman and obtained a yield of more than 6 tons per acre. His net return above cost was $60.00 an acre or $9.00 per hour of man labor.

Every grower could follow similar procedures with comparable results. An average yield of 6 tons of sweet corn for all growers is an entirely reasonable objective. Progressive growers obtain yields well in excess of 6 tons today.

To be effective in an improvement program the fieldman requires the active support of management. To give force to the program it is desirable to be selective in contracting, offering contracts to those growers who are responsive to suggestion and do obtain high yields.

## Mechanical Harvesting of Sweet Corn

By T. N. MARTIN

*Sales Manager Canning Machinery Div., Food Machinery and Chemical Corp.*

In this discussion we will not dwell on the obvious labor savings that have been realized by mechanical picking over hand picking. Rather, we will mention three other inherent advantages that have been realized by the use of the sweet corn harvester.

First, mechanical harvesters remove less green weight and more corn weight per ton than manual picking. Undeveloped ears and long ear shanks in the payload of hand picked corn are left in the field by the harvester, while usable ears are not left in the field. Machines actually take more corn from the field with resultant increases in ear weight per ton. This being true, the packer pays less handling costs per shipment of corn, since there is substantially less trash and unusable ears brought to the plant. Absence of trash also increases efficiency of the in-plant husking operation.

Second, since less green weight is delivered to the plant, the packer receives a higher percentage of cut-off. Some users have reported up to 10% increase in cut-off as a direct result of mechanical harvesting. This sets up increased case yield which has sometimes been wrongly attributed to corn cutters.

Third, and probably one of the foremost values of the corn harvester, is accurate production control. Through the employment of mechanical harvesting, packers are able to anticipate plant production, thus allowing them to plan definite scheduling. Furthermore, he can set up his schedules without regard for unfavorable weather conditions that hamper manual pickers. In addition, he can plan on a 24-hour a day operation because the mechanical harvester can be operated around the clock.

In principal, the FMC Harvester is

relatively simple. Three gathering chains in each picker head feed the stalks into rotating six-bladed cutter bars, which pull the stalks downward and partially cut them. These knives cut the ear shanks so the ears, which are mechanically prevented from entering the knives, fall into a screw conveyor that carries them to the rear. Here they move past a powerful fan which blows leaves or loose husks onto the field. The ears are then dropped into a wagon or truck by the elevator which is readily adjusted for either side or rear delivery.

The change from hand picking to mechanical harvesting of sweet corn has been swift and complete, enabling the canner and freezer to pack better corn at less costs than a short ten years ago was believed possible.

## Transportation from Field to Plant

By AUSTIN J. HAYDEN

*Green Giant Co.*

The development of an efficient, well-organized green produce transportation system is the most challenging, far-reaching aspect of the entire sweet corn canning business.

**Plant Size:** For maximum use of costly machines, building and overhead personnel, the plant of today must be considerably larger than that of the horse days. The feasibility of providing green produce for this larger size plant can be more easily attained by lower cost hauling from greater distances.

**Length of Season:** By reaching out to areas of earlier and later maturities, more efficient hauling can increase annual production.

**Green Produce Costs and Quality of Acreage:** As hauling costs are reduced, a greater area can be covered for the same green produce hauling costs per ton. Since the growing area increases as the square of the distance from the plant, it should be less difficult to obtain the desired acreage at a relatively lower price. Also, higher yields and greater recovery can be achieved where the area of selection is greater.

**Corn Maturity:** A well-organized, scheduled transportation system is essential to maintaining a maturity program. By being available in all types of weather during the maximum length of day, preplanned schedules can be more realistically met in a multiplant operation. An efficient transportation system allows the transfer of green produce to plants where less than maximum capacity is being used. Through this principle, crowded schedules can be planned with less risk.

**Company Farm Operations:** With more efficient hauling, company farming can be more feasibly carried on in areas of lower rents and higher productivity than might normally be available near the plant site.

**Harvesting and Unloading Crews:** A well-scheduled transportation system will provide the maximum production from these crews for the maximum length of day.

In establishing your green corn transportation system, proper rate structures must be established to provide maximum incentive and minimum delays during all types of weather.

Equipment to be used depends on local availability and desired hauling distance. The greater the distance, the larger the hauling unit needed. At some point, that hauling unit becomes too large to be driven in the field. There, auxiliary hoppers or trailing units must be used to take advantage of this decreased hauling cost opportunity. Other advantages of a hopper-semitrailer combination might be listed as follows:

1. Time saved in opening fields.
2. Less waiting time for trucks.
3. Ability to operate under more moist field conditions.
4. Less soil compaction.
5. Facilitates the most efficient transfer of green corn to any one of a number of plants in a multiplant operation.

## *Value of Seed Trials Depends on Evaluator*

By W. D. ENZIE

*Horticultural Research Mgr.*
*Birds Eye Div.*
*General Foods Corp.*

A basic premise of sweet corn processors is that the finished product quality can be no better than the quality of the raw product. It thus becomes important that processors develop critical evaluation methods as a basis for choosing such varieties—*and a qualified man to supervise them.*

The person charged with the responsibility of variety selection should have certain qualifications and attitudes. Misinformation or that improperly interpreted by the evaluator can result in a loss of valuable time and money for management.

Foremost such a person should be a keen observer. One does not learn about varieties by an occasional and casual observation. One becomes acquainted with varieties by *living* with them.

He must have a good memory—a broad, comprehending one. All too often busy production people are swayed in their judgment by experiences of last year only. Biological response is seldom, if ever, exactly duplicated from one year to another.

The evaluator must be fully cognizant of the Fieldman's problems and those of the Production Supervisor and also the Quality Control Department. These people have to determine harvest time, divert the raw product to appropriate lines and pack a quality product for a cost per unit which has already been budgeted.

Evaluation of processing characteristics can only be done through the willing cooperation of all parties concerned. It extends well beyond the conventional trial ground tests to pilot plant field tests and to critical observations through all phases of the factory operation. Variety testing must be a team effort. Effectiveness of such a program obviously depends on the ability of the evaluator to "sell" his job and to bring about an amalgamation of sound practical ideas. This infers a certain degree of "give and take" but only when based on sound information rather than opinions and guess work.

In the final analysis the evaluator must have the respect of Management and enough intestinal fortitude to stand up for what he believes to be true. Minor whims of various people throughout the organization should not sway the decisions or create a climate of unjustified vaccilation. The Horticulturist assigned the important task of choosing varieties and their sources should be dignified in the eyes of Management. Good seed of the correct varieties is basic for the procurement of good quality raw material without which satisfactory finished packs cannot be produced.

## Field Corn Methods Will Help Sweet Corn

By K. C. BERGER

*Dept. of Soils*
*Univ. of Wisconsin*

Recent advances in methods of growing corn have increased yields of field corn greatly in the past eight or nine years.

Sweet corn yields have increased in this period and can increase still more if practices that have been proven for field corn are followed.

One of the major factors holding down yields of sweet corn per acre is the desire for very large ears. It has been demonstrated a number of times that maximum yields and maximum ear sizes do not go together. Some

compromise has to be made.

In order to obtain maximum profitable yields, the following conditions are essential.

**Stands:** The plant population at time of harvest should be in the neighborhood of 18,000 plants per acre, but only when there is an adequate amount of fertility and adequate moisture for maximum profitable yields.

**Soil Fertility:** In order to intelligently fertilize the crop, it is necessary to take an inventory of the fertility status of the soil. This can only be done by soil testing.

Recent tests have shown that the proper placement of fertilizer for sweet corn is two inches below and two inches to the side of the seed. At this placement, any amount of fertilizer can be safely applied. Where conditions of summer drought are involved, or where spring temperatures are high, when corn is planted, fertilizer can also be broadcast or split applications can be made. Recent tests have shown that phosphorus uptake by young corn plants is severely limited by proximity of chlorites in the row or by cold wet soils. Broadcasting the potash materials where needed and applying a high phosphate, low potash fertilizer in the row has resulted in greatly increased uptake of phosphorus.

**Soil Compaction:** One of the greatest deterents to high yields of corn on commercial grower fields has been soil compaction.

Fortunately, soil is kept loose by working the soil more before plowing and then using minimum after plowing and before planting.

Disking with large cut-a-way disks before plowing results in much better job of plowing and often one disking or simply dragging the soil after plowing will result in a perfect seedbed for planting corn.

**Cultivation:** Great injury to stands and to yields are done by excess cultivation. Too frequently cultivation is deep and prunes the roots severely, this provides easy access and entry into the plants of soil fungi which can cause stalk rot. With a minimum tillage and weed sprays, cultivation can be reduced and good crops of corn can frequently be grown without cultivation at all.

With a good moisture supply, and on soils with a good water-holding capacity, and good internal drainage, it is not impossible to achieve yields of ten to twelve tons, and perhaps even higher per acre with the above practices.

**UNTREATED PLOT** shows a severe seedling grass infestation.

## Five Uses For Herbicides in Corn

By Lawrence Southwick

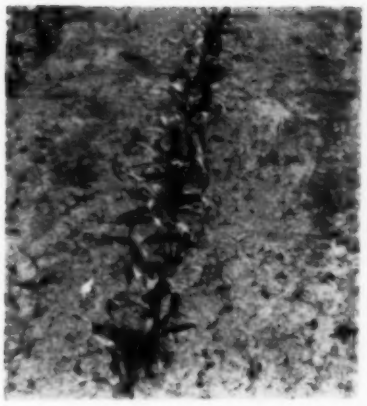
*Dow Chemical Co.*

Herbicide use, in relation to corn, can be divided into five categories: pre-plant, pre-emergence, overall post-emergence, directed lay-by, and post-harvest.

One of the worst weed pests in northern areas is quackgrass. The best commercial control possibility seems to be proper use of a pre-plant application of dalapon in the fall or in the spring. After spraying quackgrass in the spring, the land is plowed and there is a waiting period of about four weeks before planting. This allows breakdown of the dalapon, which if present in the soil after corn is planted, can affect the corn.

Pre-emergence application for controlling seedling weeds has been practiced on a limited scale for a number of years. The most widely used chemical is 2,4-D ester. Under the right conditions, good control is obtained, however, seedling grasses often escape and there have been some cases of injury to the corn where leaching by heavy rainfall has caused uptake of the 2,4-D by the corn roots. Other chemicals that show promise in pre-emergence application include Randox (CDAA), Eptam, Simazin and dinitro. Growers should look into these possibilities to see where they may fit in their particular programs.

The most prevalent type of herbicide application is early post-emergence spraying. The foremost product this brings to mind is, of course, 2,4-D, and this weed killer is widely used to control broadleaf seedling weeds. A weakness of 2,4-D is the well-known differential tolerance of some corn



**TREATMENT** with dinitro (Premerge) leaves only corn after early post-emergence spray.

varieties. A more recent development is the use of amine dinitro (Premerge) as a very early post-emergence treatment to control not only broadleaf weeds but young seedling grasses, as well. Also, this contact-type chemical does not cause systemic responses, like 2,4-D. Excellent results have been obtained as attested by accompanying photographs, and interest is increasing especially since treatment cost is quite reasonable. Correct timing is important.

Lay-by treatment after the last cultivation can be very useful. A spray is usually directed under the corn and onto the developing weeds. Dinitro, 2,4-D-ammonium nitrate, 2,4-D alone, and other herbicides have been utilized successfully in lay-by and post-lay-by treatments.

The fifth possible time to apply weed and grass killers on corn land is after harvest. With no need for selectivity, this affords an excellent opportunity to apply 2,4-D at somewhat higher and more effective rates to certain hard-to-control, deep-rooted perennial weeds, such as field bindweed and Canada thistle.

## Corn Varieties for Canning

By F. Carl Tapperson
Processor Div.

*Associated Seed Growers*

As to no other vegetable species are the packers' wants more complex and obscured by diverse opinion than as to sweet corn for canning. High gross yield, high "cut-off" or recovery and good quality in the finished product are the basic requirements but they are clouded by shifting definitions of what each (and particularly "quality") means. Also, there is no static relationship between the relative im-

MAY 21-30

# PICKLE WEEK

# ...proof of sales-power!

**Once more—a nation-wide demonstration of the power of pickles—to build sales, to build profits**

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Recognition of the growing sales-power of pickles is now one of the basics of food merchandising. As pickles keep on getting more and more attention at the retail level, pickle sales keep getting better and better.

National Pickle Week provides annual proof of this dynamic growth factor. Each year, this highly-respected promotion shows what pickles can do when they get their chance.

**For an opportunity, thanks!**

As the chief cap supplier to the pickle industry, White Cap has a real interest in Pickle Week. We delight in the progress our friends, the packers and the merchandisers, are making.

So—a word of thanks for the opportunity we have had to be part of the team that works for pickle progress.

For many years, we've been busy with our key part in the development of pickle packaging. We've worked hard—together with our customers—to make pickle packaging more efficient, more economical, to speed the manufacturing process, and to make pickle quality better and pickle variety greater.

The results are gratifying.

So, we're looking forward to Pickle Week, 1959, with complete confidence that this year's promotion will be the most successful yet.

4-59

## "VAPOR-VACUUM"

*Seal and Re-Seal*

WHITE CAP COMPANY

SUBSIDIARY OF CONTINENTAL CAN COMPANY

NEW "Twist-Off" CAP
NEW "Twist-Off" CAP

portance of the respective factors. This is true not only from year to year but between areas and even packers in a single year.

From time to time, since FI hybrids of sweet corn first came to general use among corn canners some twenty-five years ago, there have emerged individual hybrid varieties which for a time captured a commanding position in the canning market. In some instances these lost their wide acceptance to a variety clearly superior in one or a combination of features but there have been fully as many replaced due to change of style or change of the economic factors bearing on farmer relations, technological change in cannery operations, or changes in the climate of the processed corn market.

Of the following varieties, developed and introduced by the breeding departments of Associated Seed Growers, Inc., and F. H. Woodruff & Sons, Inc., now merged and selling under the Asgrow brand, there are some which have been proven by wide use over a relatively long period. Others represent new items, bred to anticipate if possible or at least to meet, the changing wants of the corn canning industry. Among these are:

Victory Golden: Long tried and proved. By all odds the most widely used yellow corn—whole kernel and cream style.

Asgrow Golden 50: Good yield though not as high as Victory Golden but produces exceptional quality in whole kernel pack.

Asgrow Golden 60: High yield and good recovery. Especially designed for cream style but is used for whole kernel. Stands adversity well.

Deep Gold: Here is the variety which meets the demand for a truly deep narrow kernel of high quality. Excellent for either whole kernel or cream.

Early Hybrid 0144: 10 to 12 days earlier than Victory Golden, this is designed to give more season at the early end. Packs good quality and yields well for so early a variety.

Cogent Illinois 13: The outstanding Cogent.

## Production Challenge to Packer and Grower

By Mark H. Mitchell

*The Larsen Company*

It is important that the challenge of modern food marketing be recognized by sweet corn growers and processors alike. The ever increasing number of new and improved food products available to the housewife makes it mandatory that we producers redouble our efforts to place on the grocer's shelf top quality sweet corn at competitively attractive prices. There are too many top quality competitive items from which the housewife may choose to permit ourselves the luxury of thinking that she will continue to buy our product regardless. She wants clean, wholesome, tasty, and tender corn at a reasonable price. If she doesn't get it, she will buy something else.

Therein lies the challenge — for while providing her with such a top quality bargain, we must, nevertheless, maintain sweet corn production as a profitable undertaking—a mutually profitable undertaking for both grower and processor.

We processors need to do more to help growers achieve low cost per ton production. Growers must have high acre yields and low operating costs to insure a reasonable return. Growers must be provided with hybrid varieties that will combine high quality characteristics with high yield potential, better and to a greater extent than any now available.

Growers themselves need to step up the rate of their adoption of improved production techniques in order to get better stands, improved fertilization, efficient and effective protection from insect damage to the crop. Growers should provide larger fields to accommodate more efficient and lower cost harvesting methods.

We in the processing industry must gear our operations to a new concept, too. We must get lower raw product costs but not at the expense of the grower. We must look into our own methods. We need better equipment. We need better case recovery per ton and we need more uniformity in product quality.

An enlightened grower - processor partnership, willing to recognize the prime importance of low cost top quality, is a basic requirement for the future.

## Method for Grading Incoming Quality

By Paul C. Hill
Agricultural Dept.
*J. R. Simplot Co.*

The United Company, makers of FUC corn processing equipment, has for many years wrestled with this problem and now decides that for production-line purposes, each ear of corn can vary from one end of the ear to the other, and from ear to ear. They have approached the problem by mechanical means. Some researchers have tried electronic color detection methods, and specific gravity has even been pulled into the picture. The complete answer is yet to be found. In the meantime, corn arriving at the plant must be graded, set aside, and run in quality or grade groups.

Corn received and graded for payment to the grower by one method, and the same corn evaluated for processing-line use by another means is, to quite a degree, confusing. To date, a combined grading method that will cover both phases of sweet corn quality and satisfy the total quality grading need is not, at least, in general use.

The present mechanics of most systems are too complicated to be practical in the average corn processing operation. Moisture content, appearance, texture and flavor seem to be the approaches to grading now used. Perhaps we are overlooking some different approaches.

Quality control in sweet corn for processing starts in the field. The corn processor can only preserve the quality of the corn delivered to his plant: he can not improve it. To provide better raw product in the field, the processor should be able to buy the corn at a price based on the finished product. Under most grower-processor relations today, the grower and processor have conflicting interests. The grower seeks weight and the processor seeks quality. To seek a solution to this problem, the North Central Regional Marketing Committee authorized research. Purdue University scientists have come up with what I believe is a good approach to a solution. Bulletin No. 530, published April, 1958, by the University of Wisconsin, goes into detail on this subject and provides a practical approach to grading the quality of incoming corn, and tying this in with the proper price to pay for the raw product.

It all boils down to the approach taken on the problem. The scientists at Purdue simply threw out all the non-essential estimating devices and kept only those that accurately related finished product to raw product. In doing so, they found moisture test and pericarp content to be the most reliable factors.

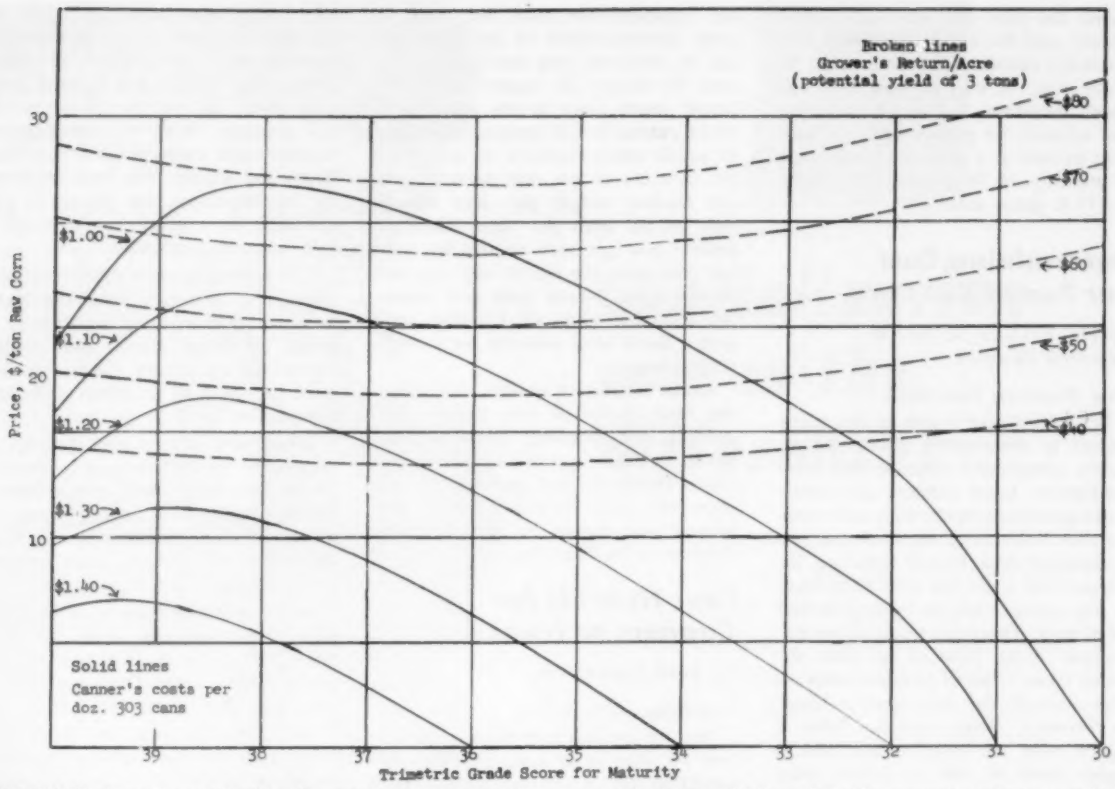
With the progress made in equipment and electronics today, these tests are quite rapid and practical.

## Four Pre-emerge Sprays Available in 1959

By Edwin O. Schneider

*Geigy Agricultural Chemicals*

Herbicides are available for pre- and post-emergence weed control in




**COST CHART shows the relationship of canner's costs to grower's returns for whole kernel sweet corn. Broken line selected by grower must be below solid line selected by canner to indicate a profitable canning operation.**

corn. Pre-emergence chemicals should be applied in the planting operation or soon after planting as they are most effective on germinating seedling weeds. Post-emergence chemicals are applied after the weeds and corn have emerged and kill the weeds by contact without injuring the corn.

Four pre-emergence chemicals are available for use in 1959. The characteristics of each will be briefly described. Simazine resists leaching, gives season-long weed control, is safe on corn, is safe to handle, effective on most annual broadleaf weeds and grasses and is effective on a wide range of soil types. Randox is effective on annual grasses, gives from 4 to 6 weeks control, is highly soluble, and is most effective on heavier soils. Eptam is the newest of the pre-emergence chemicals, is effective on dry soil, should be soil incorporated, controls both annual broadleaf weeds and grasses at higher rates and at low rates controls only grasses. Pre-emergence treatment of 2,4-D ester has been effective on both grasses and broadleaf weeds; however, reservations must be made because of possible injury to sweet corn. Colleges report that sweet corn is tolerant to Simazine and Randox and fairly tolerant to Eptam.

Post - emergence applications of 2,4-D to sweet corn are effective mainly on broadleaf weeds if timing and rates are correct for the soil type and vigor or the weeds. Improper treatment can result in from slight injury to complete kill of the corn.

## *Relationship of Cost to Quality*

By Dr. Amihud Kramer

Dept. of Horticulture

*Univ. of Maryland*

Processors who purchase raw materials on a quality grade basis, assume that both grower and processor benefit if the price schedule is arranged in such a way that the grower will be encouraged to harvest at a high quality level. With certain seed crops, such as peas, lima beans, and sweet corn, however, top quality may be associated with very young maturity, which in turn may be associated with low yields. Thus there may be a point at which harvesting at an extremely young maturity level may not bring maximum returns to the grower. At the same time, a low yield in terms of cases per ton may affect the processor similarly.

Hence, the problem is to utilize information on the relation of yield to quality, and quality to price of the finished product in order to show how a best solution can be obtained which would bring the maximum profit to both grower and processor. The needed information is as follows:

1. A reliable method for measuring the quality of the raw material which will be closely correlated with the quality of the finished product.

2. Relation of quality to yield of raw product in terms of tons per acre, or percentage of maximum yield, had the crop been harvested at the maximum yield stage of maturity.

3. Relation of quality to yield of the finished product in terms of cases per ton of raw material.

4. Total costs, direct and indirect, of manufacturing and marketing the finished product.

5. Gross returns per acre expected by the grower.

From such information, charts may be constructed, as shown on this page for sweet corn, which indicate what the canner can pay for a ton of sweet corn of different qualities, depending on his manufacturing and selling costs, and anticipated sales prices of the finished product. Similarly, the grower can determine what his return per acre can be expected to be if he harvests at any given quality level. The

higher the solid line (canner's calculation), and the lower the broken line (grower's calculation), the greater the profit area. As may be seen from the chart, therefore, for sweet corn, the best solution for grower and processor is to harvest at a medium fancy stage of maturity, or 38 grade points on the U.S.D.A. grade scale.

## Determining Cost per Ton of Cut Corn

By Dr. Stuart N. Smith
Research Director

*Seed Research Specialists*

Production cost is one of the major factors in determining profit with a highly competitive business like food production. Corn canners and freezers frequently compute their raw product cost in terms of the price per ton for snapped corn. Few of them pay for the corn on a net cut corn basis such as pea canners use in buying shelled green peas. There are tremendous differences in the yield of cut corn obtained from a ton of snapped corn. A large part of the difference is based on heredity. Some varieties have a higher ratio of husk to ear and a higher ratio of cob to kernel than others.

A method for computing the cost per ton of cut corn has been used in cooperative tests with canners for the past four years. I think this cost per ton of cut corn is fully as important as the snapped tons per acre in rating a new sweet corn for possible use. Where the trials were run on a field basis it was possible to weigh the snapped yield from one acre of ground; then weigh the cut corn obtained from this yield. This figure represents the tons of cut corn per acre. The cost per acre for snapped corn is obtained by multiplying the tons snapped by price per ton. Then cost per acre divided by tons cut corn per acre equals cost per ton of cut corn. For example: 5 tons of snapped corn per acre at $20.00 per ton equals $100.00 per acre gross cost. However, this produced one and one-half tons of cut corn which would give 100 divided by 1½ or $66.66 per ton of cut corn.

A similar method can be used for smaller scale experimental tests. Here we have determined yield per acre for snapped corn and multiplied by the cost per ton to determine gross cost per acre as above. We have then husked the snapped corn and determined the per cent of cut corn on a green husked basis. This can either be done by cutting the corn off or by determining ratio of kernels to cob. If ten representative ears are used, a close approximation of per cent cut can be obtained from the formula 2K over D, where 2K equals twice the kernel depth down to the glume line where cutters would operate and where D equals mean diameter of ear. This per cent cut or per cent kernel times net husked weight per acre equals tons of cut corn per acre. Then as before, cost per acre divided by tons cut corn per acre equals cost per ton of cut corn. Where land and stands are uniform, plots of 1/200th acre give a fairly close estimate for experimental use.

Other factors, of course, enter into the final choice of new hybrids for canning and freezing. These include flavor, texture, appearance and gross yield. However, cost per ton of cut corn has often been left out of the picture and should be an important element in the final choice.

## Four Hybrids for Canners or Freezers

By Iver Jorgensen

*Northrup, King & Co.*

We are pleased to provide information on four sweet corn hybrids well suited to the processing trade. They are NK 195, NK 199, NK 81 and NK 87.

NK 195 is a very productive hybrid, with exceptionally good quality and attractive, uniform bright kernel, when processed either frozen or canned.

NK 199 is very widely used in the processing trade, has a good deep kernel, tender pericarp, and gives a very high recovery at the factory as well as a good yield for the grower.

NK 81 is a new hybrid, maturing a few days earlier than NK 199. It has an attractive 16 to 14 row, white silk and good quality. It is just becoming available.

NK 87 is anothed new hybrid maturing a few days later than NK 199. It has been very productive, on the basis of reports received, and has deep kernels, tender pericarp and white silk. It is well suited, as are the others, to both canning and freezing.

## New Varieties Take 3 Years for Approval

By P. Schulz, B. Givens
H. McIntosh

*Corn Breeder, Sensory Evaluation Specialist, Supervisor of Quality Control*

"This raw product does not have the same good flavor it had 25 years ago." Such statements by highly regarded men have led to hundreds of experiments, most of which show that changes in fertilizer and farming practices rarely change the flavor of the raw produce. However, varieties and weather have tremendous influence on flavor and quality. The best opportunity for improving the flavor of raw products, in a given environment is with improved varieties.

The ever-increasing number of new sweet corn varieties being developed gives us an increasing opportunity to select for better flavor and quality. For all quality factors, the new variety must be equal to, or better than, the hybrid now used.

Libby first screens new varieties of sweet corn for performance in the field at our Janesville, Wis., testing center. Those classified as meeting our requirements are retested in the field the following year. Canned samples of each variety are evaluated.

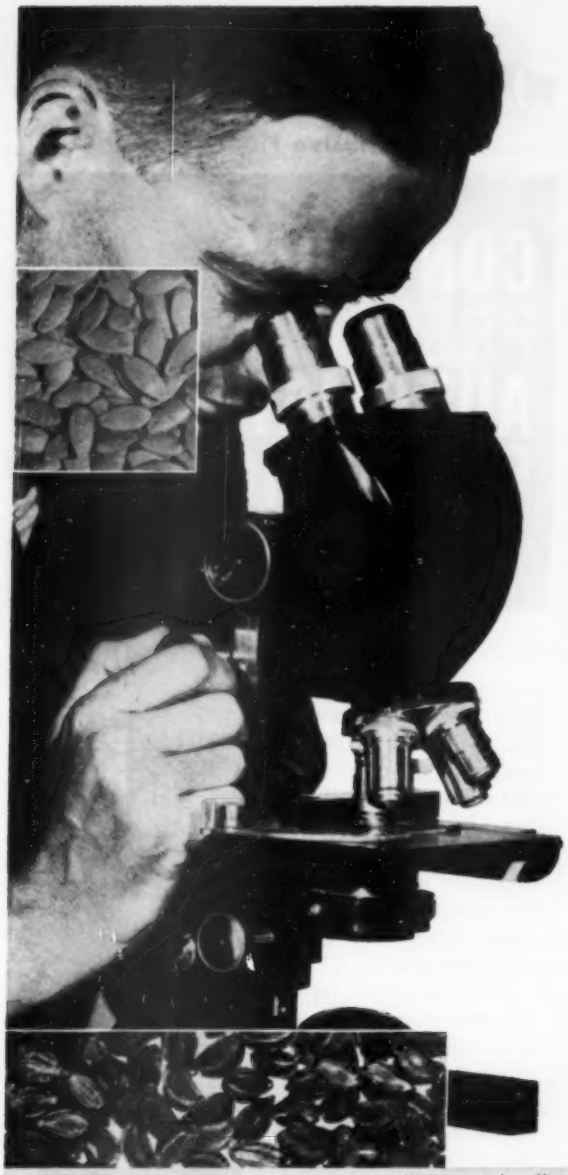
Satisfactory varieties are then planted in larger test plots in all our sweet corn growing areas. Canned samples are evaluated in the Divisional Laboratories at Blue Island, Ill.

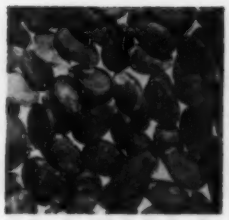
Varieties approved for third year field trials are harvested at different stages of maturity as determined by moisture content and tenderness. Field and case yield data are obtained, but, more importantly, we find at what stage of maturity we can expect the best yield of high quality product.

After each canning season, a committee of experienced graders evaluates the quality characteristics of the experimental samples on a blind basis. The cans are coded with symbols not made available to the graders prior to the cutting. Scores are assigned according to Libby quality specifications for color, cut, absence of defects and maturity. The samples are duplicated to determine the uniformity of grading group and the ability of an individual grader to grade consistently. The results are analyzed statistically to determine the most promising varieties from a quality standpoint.

An additional cutting is arranged for flavor evaluation by our laboratory panel. The best performing new variety is compared to the commercial variety. Each component of quality is compared not only to test its superiority to the old standard variety, but also for the degree of superiority.

Testing by a laboratory panel gives an indication of preference. Ultimate consumer acceptance or preference of the new variety is determined by wide scale testing, using people of all age and income levels in various geographic areas.





# Specialization makes the difference!

Differences in your own climate and soil as compared with other growing areas call for *differences* in the seeds you plant if you are one who aims for maximum high quality yields. Specialization—the development by specialist breeding teams of vegetable strains adopted for your growing area build these differences best.

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| WALDO ROHNERT COMPANY | SPECIALISTS IN ROW CROP VEGETABLES |
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Modernizing Urgent for Macaroni Plants

Bakeries Modernize to Stay Solvent

**IS PROFIT-EATING EQUIPMENT MAKING THESE HEADLINES IN YOUR PLANTS?**

Antiquated Ideas Obsolete the Designs

Meat Operations Extra Obsolete

Dairy Modernizes for Profitable Products

Candy Plants Need Overhaul

Canning, Freezing Behind Times

Could Cut Soup Costs 50%

**STYLE SA** Double Motion Mix Cooker Variable Speed Drive

Has obsolete high-cost production machinery reduced your profits? If so: MODERNIZE.

Hamilton produces equipment that can show you how more can be accomplished in less time, and with quality assured through modern equipment and mechanical controls, rather than by human skills at high wages.

Hamilton equipment can brighten your profit picture.

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ESTABLISHED 1870

**HAMILTON** Kettles

COPPER AND BRASS WORKS

DIVISION OF BRIGHTON CORP.

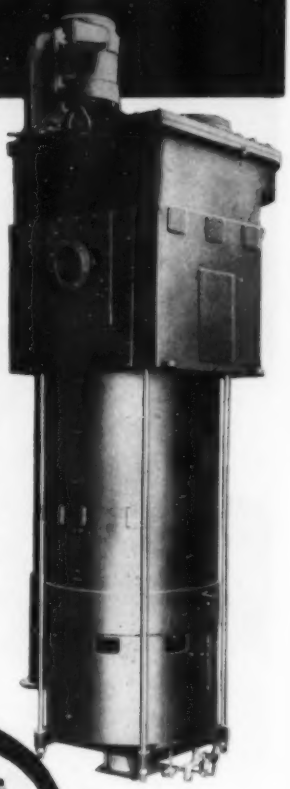
820 STATE AVENUE, CINCINNATI 4, OHIO

Jones

**ZENITH* PRESS**

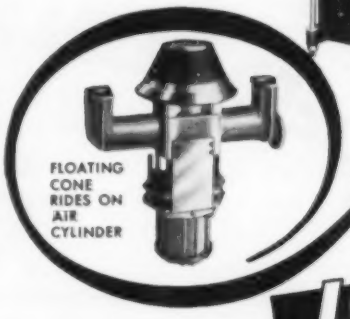
**with exclusive Floating Cone***

**CONTROLS PRESSURE AUTOMATICALLY ECONOMICALLY**



In separating liquids from solids, or solids from slurries, you'll find no press operates more efficently than a Jones Zenith. Exclusive Floating Cone rides on air cylinder piston, automatically maintains uniform pressure on material being forced down by screw-type spindle.

Continuous, high capacity performance without attention assures low operating and maintenance costs. Wide variety of sizes available. Write for complete details.




Jones

*Trade Mark

**E. D. JONES CORPORATION**

**37 Depot Street, Pittsfield, Mass.**

**Builders of Quality Machinery for Over 100 Years**

# FOOD TECHNOLOGY

## How Jewel Tea Insures Its Frozen Food Is Frozen

Jewel Tea Co. had been getting complaints from truckers when it turned down shipments of frozen food at the receiving dock. The loads are refused when the temperature of the truck is over 10° F. The truckers said that when they picked up the shipment at the warehouse, the temperature was high. They said that they were told, if they refused one pick up, they would never be allowed to make another.

The company checked further and found a couple of situations when frozen food was taken out of the warehouse as high as 26° F. So, a letter went to all warehouses saying that the trucker was not allowed to pick up frozen food that was above 10° F. The letter said that when a trucking company refuses to load, it is not they who are refusing, but Jewel Tea Co.

*—A. (Scottie) Wilson, Jewel Tea Co. at National Association of Frozen Food Packers, Chicago, March 3.*

## Antibiotics Are Important to Pet Food Manufacturers

At the annual convention of the Pet Food Institute in Chicago, pet food manufacturers were told that the use of antibiotics would be economical for two reasons—very low levels are required and losses from spoilage are held to a minimum. This and other factors were taken into consideration in a talk given by Dr. Paul F. Hopper, director, food industry development, Agricultural Div., American Cyanamid Co.

## Scientists Find New Way of Killing Insects

University of California Scientists have found a new method for killing insects—dust desiccation. Directed by Dr. Walter Ebeling, entomologists at the Los Angeles campus have demonstrated that fine dusts with certain characteristics absorb the wax coating insects need to protect vital body moisture. When this thin coating is absorbed, insects literally dry to death.

## Fish Bone Detector

Fish fillets assured to be without bones may be a technological development of the near future.

Barkley & Dexter Laboratories, Fitchburg, Mass., have been working on a bone detecting and rejecting machine, in cooperation with U.S. Fish & Wildlife Service, Bureau of Commercial Fisheries. An electron-beam device, mounted over a conveyor, has been worked out to scan fillets passing beneath, and to note any one which contains a fragment of the unwanted material.

Work is now under way to develop the second half of the unit—something which will sweep the bone-bearing piece of seafood off the belt, shunt it down a side conveyor, or in some other mechanical fashion eliminate it from the flow directed toward the filling and packaging areas.

## Research Workers Develop Red Grapefruit Juice

USDA research workers in Weslaco, Texas, have developed a canned single-strength juice from red grapefruit. The processing method involves the use of small quantities of color-bearing pulp to give the canned juice the desired tint.

Details of the method of preparation are available in a pamphlet by B. J. Lime, T. S. Stephens and F. P. Griffiths. Copies may be obtained by requesting ARS 72-12, *Production of Canned Pulp-Fortified Red Grapefruit Juice*, from the U.S. Fruit and Vegetable Products Laboratory, P. O. Box 388, Weslaco, Texas.

## Starch Derivative That Does Not Jell

A corn starch derivative, newly developed, can be used as a thickening agent in various paste-like products. It is a cross-linked dicarboxyl starch, one of the latest developments of the USDA's Northern Utilization Research and Development Div., Peoria, Ill. USDA scientists have been hunting for a derivative that would not jell when cooled. The dicarboxyl starch is the most recent development.

## Books for the Food Technologist

*Recommended Methods for the Microbiological Examination of Foods*, by 22 members of the subcommittee on methods for the microbiological examination of foods, American Public Health Assn., Inc., and by 11 contributors. (210 pages, American Public Health Assn., Inc., New York City, $4.50). This practical book is designed to provide laboratory personnel with an up-to-date, authoritative manual which will guide them in both routine and special examinations of foods and food products. Under the chairmanship of Dr. Harry E. Goresline (associate scientific director, QMC Food & Container Institute), the committee and contributors have prepared and reviewed chapters on 14 classes of foods. Also included are general directions, sanitation indexes, data on food-poisoning types of microorganisms, on culture media, on stains, on reagents and indicators.

*Modern Manufacturing Formulary*, by Emil J. Belanger (400 pages, Chemical Publishing Co., New York City, $10.00). While this capably-done book contains many formulae outside of the food field, it has a chapter on selected food products, one on flavoring extracts, and one on beverages (carbonated and otherwise). The author provides his data in a form which can be readily applied to manufacturing processes. He often gives several alternate lists of ingredients, and includes suggestions for achieving maximum efficiency in production.

*Food Industries Manual, 18th Edition*, by 15 contributing authors and the staff of Food Manufacture (980 pages, Chemical Publishing Co., New York City, $16.00). This is an essential publication for any firm engaged in general food manufacture, and exceedingly valuable to specialized food packers as well. Its chapters on food production include flour and flour milling, breadmaking and confectionery, canning and preserving, meat products, pickles and sauces, dairy products, food dehydration, edible fats and fruit juices. In addition, it has sections on food storage and refrigeration, food handling equipment, packaging, the boiler plant, food composition, and food vitamins. It is thoroughly indexed, and sub-topics are arranged alphabetically in the various chapters.

*Flavor Research & Food Acceptance*, sponsored by Arthur D. Little, Inc. (390 pages, Reinhold Publishing Corp., New York City, $10.00). The many students of flavor who have contributed to this publication give the reader a look at what flavor is, then go on to discuss its testing in the laboratory and by organoleptic methods, and conclude with a series of reports on current flavor research projects. A total of 35 chapters covers all of these points thoroughly, at a technical level valuable to the flavor scientist and the processor.

## I.F.T. SECTIONS CALENDAR

*see page seventy-four*

# Report to Continental's friends in the canning industry

CANNED FOODS
**Merchandiser Digest**

PUBLISHED BY CONTINENTAL CAN COMPANY, 100 E. 42nd ST., NEW YORK 17, N.Y.

During 1958 we delivered this selling tabl

## To 100,000 retailers, wh and brokers everywhere i

and to 15,000 other men interest in promoting your canned food

*Newest merchandising ideas for selling canned foods*

CANNED FOODS
Merchandiser Digest

NUMBER 40 CONTINENTAL CAN COMPANY, 100 E. 42nd ST., NEW YORK 17, N. Y. MAY 1958

MAKE YOUR END-OF-AISLE WORTHWHILE

ALL SIDES SELL

MEET THE MANAGER

RECIPE HEADQUARTERS

**48 INFORMATIVE PAGES** like this—fact filled, interesting, profitable reading. Four tabloid pages every month, actual size 10¼ x 14 inches.

**120 PRACTICAL IDEAS** for efficient display and sale of your canned fruits and vegetables appeared in '58 issues. They were gathered from stores all over the U. S.

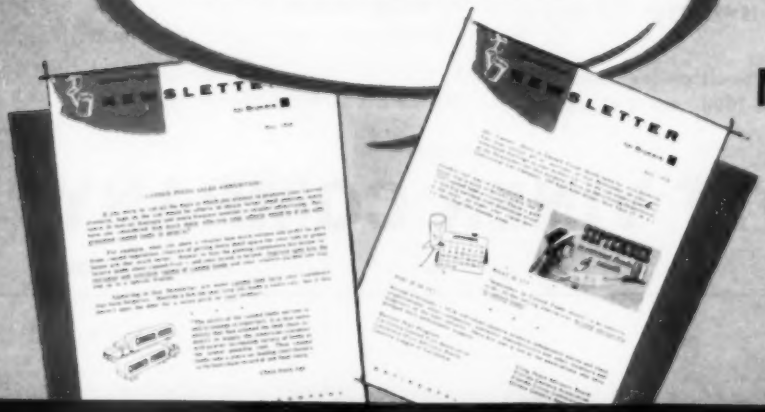
**SPECIAL 2-COLOR INSERTS** like this gave the how and why of individual crop promotions. More are being prepared for 1959 issues.

## PROMOTION Pointers

**EVERY MONTH** the Digest brings capsule information on special "weeks," canner's promotions and other store tie-in opportunities. 24 of them in 1958!

CANS ON COLUMN

**SPECIAL NEWSLETTERS KEEP BROKERS CURRENT**




## Your retailers read the Merchandiser Digest

If you are not receiving it every month, please write or phone

**CONTINENTAL CAN COMPANY**

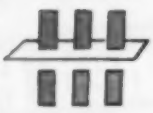
100 E. 42ND STREET, NEW YORK 17, N. Y.

Give your

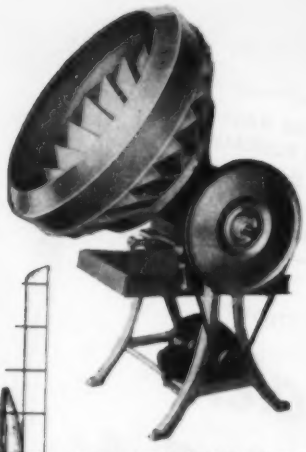
SNAP WAX **BEANS·ASPARAGUS·OKRA**

the "Quality Touch" by cutting them

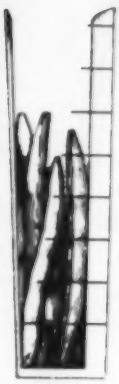
CLEAN SQUARE UNIFORM



*with the URSCHEL "MODEL 30" CUTTER*



Urschel "Model 30" Cutter



Cross section of Model 30 cutting chamber, showing position of product and cutting order of knives.

• Lowest possible maintenance cost. • 50% saving in product due to starting cut from one end of product—thus reducing "short ends" to a minimum. • Unit needs less than 11½ sq. ft. floor space.

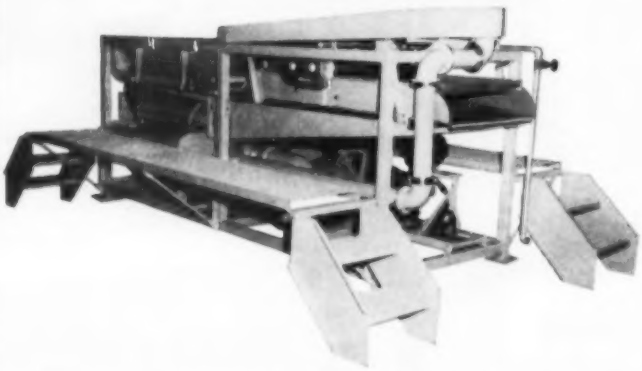
Consult with us now about your cutting problems. Write:

PRECISION HIGH-SPEED FOOD CUTTING EQUIPMENT

**URSCHEL LABORATORIES INC.**
VALPARAISO INDIANA

*Designers and manufacturers of precision, high speed cutting equipment for food products*

# NEW EL-1000 VEGETABLE WASHER



## Four Separate Washing Stages

**Write today for complete specifications and information on how the EL-1000 can help you!**

## for Peas, Corn, Lima Beans and Other Commodities

This New EL-1000 has a BIG CAPACITY but is quickly adjustable to fit any load or any commodity for which the machine is designed. The unit has a completely self contained drive and adjustable legs for leveling on uneven floor surfaces. Simply place in any convenient location with sufficient drainage, connect water and electricity and it is ready for action.

# THE SCOTT VINER COMPANY

**1224 Kinnear Road** **Columbus 8, Ohio**

## CANNED FOODS

### Year's Pack Figures Are Up and Down

**Poultry:** A total of 261,026,000 lbs. of poultry (ready-to-cook weight) was used for canned and other processed foods in the U.S. in 1958, USDA reports. This compares with 227,304,000 lbs. in 1957, and is the largest pack on record. Not quite one-fourth of the 1958 pack was turkey, the balance almost all chicken.

**Beets/carrots:** The U.S. beet pack, to the end of 1958, was 8,447,468 cases, all sizes, slightly below the 8,714,088 reported for the same period of 1957. The U.S. carrot pack showed an opposite trend, gaining from 2,153,-219 actual cases to the end of 1957 to 2,906,399 cases as of Dec. 31, 1958. Data are from Natl. Canners Assn.

**Pineapple:** The pack of canned pineapple in Hawaii and the Philippines totaled 16,203,007 actual cases in the eight months ending Jan. 31, 1959, against 15,645,711 during the like period of 1957-58. Inventory this Jan. 31, however, was smaller than last. The pack of juice, similarly, showed a gain from 10,109,578 cases to Jan. 31, 1958, to 11,691,773 cases to Jan. 31, 1959. Again, packers' stocks were lower than Jan. 31 than a year earlier.

**Spinach:** Processing spinach acreage is expected to be 10% higher in Florida in 1959 than it was in 1958. California, too, anticipates a gain, prospective plantings for canning and freezing being up 17%.

**Seafoods:** The U.S. 1958 pack of canned tuna is reported as 14.3 million standard cases (48/halves), according to U. S. Fish & Wildlife Service. The 1957 outturn was 11.9 millions. The Pacific Northwest/Alaska salmon pack was 3,639,500 standard cases (48/1-lb.) in 1958, vs. 3,184,-900 cases in 1957.

**Meats:** After having produced a slightly smaller pack in 1958 than in 1957, U.S. meat canners are again starting slowly in 1959. U.S.D.A. reports a pack of 185.2 million lbs. under federal inspection in January of this year, compared with 180.1 millions in January of 1958 and 248.9 millions in the same month of 1957.

**Pineapple:** Malaya's output of canned pineapple is estimated at 2,000,000 standard cases in 1958, which compares with 1,692,419 cases in 1957 and 1,643,402 cases in 1956. Production of canned juice ran about 20% below 1957, and probably did not total more than 60,000 cases.

## FROZEN FOODS

### Citrus Gain, Berry Cut in 1959 Season

**Orange:** Despite the slow and late start, Florida's production of frozen orange concentrate in 1958-59 is now being estimated at 70 million or more gallons. This compares with 75 millions in 1956-57, and with less than 59 millions in last year's painful season. To the first of February, however, Florida's pack this season was about 4 million gals. behind 1957-58 and about 2 million behind 1956-57.

**Other citrus:** Florida's output of frozen grapefruit concentrate to Feb. 1, 1959, was 778 thousand gals., vs. 309 thousand in the like period a year before. The blend outturn was up from less than 4 thousand gals. to nearly 133 thousand. Tangerine concentrate production had reached 947 thousand gals. this Feb. 1, contrasted with less than 108 thousand 12 months earlier.

**Strawberries:** U.S. acreage planted to strawberries in 1959 adds up to about 106 thousand bearing acres, down from the 111 thousands of 1958 and the 1949-57 average of nearly 116 thousands. Thus, despite a sharp jump in Florida's winter output, resulting from both increased acreage and bigger yield, the 1959 frozen pack of strawberries is likely to be slightly under the pack of 1958.

## DRY FOODS

### U. S. and Foreign Market Picture Mixed

**Filberts:** Turkish exports in 1958-59 will run well above 1957-58. The 1958 crop was 120,000 short tons (unshelled), against 81,000 tons the year before. Of the 1957 crop, 36,701 tons shelled and 850 tons unshelled were exported in the year ending Aug. 31.

**Fruits:** South Africa's pack of dried fruits in 1958, and consequently her exports in 1958-59, are running larger than in the previous year. Production in 1958 included 8,862 short tons of raisins and currants, and 5,081 tons of tree fruits. In 1957 the outturn was 6,753 tons of vine fruits and 3,348 tons of tree varieties.

**Almonds:** Morocco is now estimated to have harvested 6,500 short tons of almonds (shelled), three times the 2,200 tons produced in 1957. Exports from July 1 to Dec. 30, 1958, have totaled approximately 5,000 tons, mostly to western Europe.

**Fruits:** Australia's 1958-59 exports of dried fruits will run larger than 1957-58, as a result of a larger 1958 pack. The raisin/currant output went up from 87,845 short tons in 1957 to 99,737 in 1958. Tree fruits also gained, from 4,203 to 4,790 short tons.

**Beans:** A bigger domestic crop, the placing of greater quantities under government price support, and more export movement are features of the 1958-59 U.S. dry bean season. The total 1958 pack was 18,981,000 bags (100-lbs.), contrasted with 15,626,000 bags the year before.

**Peas:** The U.S. dry field pea industry is running counter to the dry bean trend in the U.S. Reduced acreage resulted in 1958 production of only 2,475,000 bags, vs. 3,326,000 the year before. Exports may equal those of 1957-58, due to short crops overseas, but domestic shipments will be sharply lower this year.

## GLASSED FOODS

### Tomato and Peanut Packs—Olive Supply

**Tomato catsup:** U.S. production of catsup in tin and glass totaled 28,364,-305 cases all sizes in 1958, compared with 24,079,436 cases in 1957, NCA reports. Of the 1958 pack, 24,887,317 cases were in glass, 50,605 were unsegregated, and 3,426,383 were in 6/10s tin. In the glass output, there was a notable increase in the outturn in 18-oz. and larger, and a decline in the 12-oz.

**Chili sauce:** NCA reports the 1958 U.S. chili sauce pack as 2,098,665 actual cases, compared with 2,207,926 cases in 1957 (glass reported 12 to the case). There was a slight increase in the pack in 6/10s tin, and moderate declines in 12-oz. glass and in the unsegregated.

**Green olives:** Greece is producing a harvest of approximately 45,400 short tons of table olives in 1958-59, up from the 32,300 tons of 1957-58 but below the 58,500 tons of 1956-57. This is the large-yield season in the industry's two-year cycles. Quality is reported good. Spain, as reported earlier, is producing a crop this season which is about equal to the 1957-58 tonnage, but dacus-fly infestation and weather factors have reduced the export-quality tonnage to about 25% below last season.

**Peanut butter:** To the end of December, 1958, peanuts used for butter in the U.S. totaled 154,628,000 lbs. (shelled).

*These top graphic designers could be working on your packaging projects*

Say the word, and these outstanding package designers will give you their best efforts. This offer is part of a Fibreboard program designed to help you reach the best possible packaging decisions.

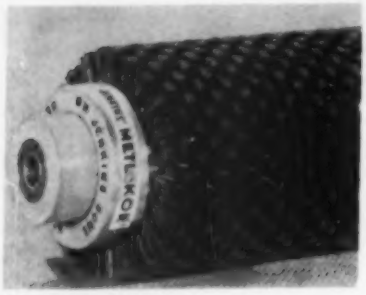
Today you can get help from experts in market analysis, structural design, graphic design, package testing, and equipment engineering just by calling Fibreboard. Qualified specialists in each of these fields will work with you, your package consultant, or advertising agency whenever you like.

This new, broader concept of packaging service can help you find new ways to package your products better, more efficiently, at lower cost. Use it. And once your packaging decision is made, let Fibreboard produce your folding cartons and shipping cases in the West's largest, most modern facilities.

Phone or write today for all the help you want!

**FIBREBOARD** PAPER PRODUCTS CORPORATION
San Francisco

# NEW EQUIPMENT/SUPPLIES



### Washing Brush

DESCRIPTION: Machine operated brushes have Dupont Tynex Nylon bristles. Cores are made of cold drawn steel or aluminum tubing, with cast iron steel, stainless steel, bronze or aluminum heads. Trade name Metlkor.

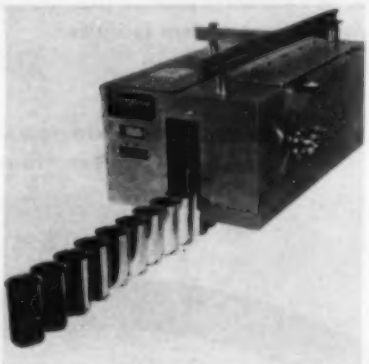
FEATURES: The manufacturer states that the design features make the brushes resistant to harmful action of acids, detergents or chlorine.

MFR.: M. W. Jenkins' Sons, Inc., 444 Pompton Ave., Cedar Grove, Essex County, N. J.

### Fill Control System

DESCRIPTION: AccuRay Continuous Container Fill Control System measures average height of fill in containers and actuates feedback control of the filling machine.

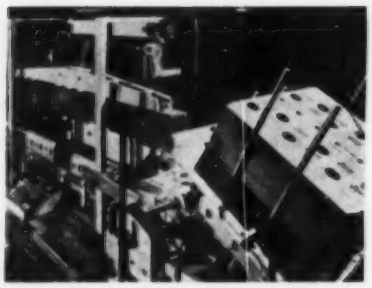
FEATURES: Can be applied to either liquid or dry products in containers of various size and shape. Permits measurements within ± 1/64 inch of target fill level with liquid products.



MFR.: Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus, Ohio.

### Packaging Machine

DESCRIPTION: Automatic flexible multipacker can handle a variety of



cans, bottles and jars at speeds up to 70 cartons a minute in single or double line. Trade name: Wrapak 70.

FEATURES: Wrapak 70 forms a 2 to 12 unit carton that accommodates chime, chimeless, aerosol, screw top and cone top cans, and glass bottles and jars. It can be adapted to folding cartons, plastic squeeze bootles, and square or round fibre cans.

MFR.: Container Corporation of America, 38 S. Dearborn St., Chicago 3, Ill.

### Frozen Food Package

DESCRIPTION: Packaging for frozen berries and fruits packed in syrup or sugar consists of a heat-sealed pouch of polyethylene-coated paper, carton and overwrap. Trade name: Pouch-in-Carton.

FEATURES: Relabeling is eliminated because the pouch-packaged fruit may be frozen in the carton, stored indefinitely, and then overwrapped as the pack is sold and shipped. C-Zip tear string is built into the pouch material; it guarantees a clean opening for the consumer.

MFR.: Crown Zellerbach Corp., Western-Waxide Div., 2101 Williams St., San Leandro, Calif.

### Liquid Vacuum Filler

DESCRIPTION: Machine is specially designed so that the vacuum system is interlocked with the starting controls. Trade name: Gravac.

FEATURES: The Gravac insures positive and accurate filling and eliminates the overflow or return system, according to the manufacturer. Standard gravity filling valves are used for either gravity or vacuum filling.

MFR.: Horix Manufacturing Co., Corliss Station, 2609 Chartiers Ave., Pittsburgh 4, Pa.

### Hopper Car

DESCRIPTION: Covered hopper car is designed to handle dry products in bulk. Trade name: Dry-Flo.

FEATURES: Internal unloading gates, housed inside the car, assure sanitation for a variety of dry products rang-

beat
the grease
problem
use white
PUR-O-TEX
conveyor
belting
TON
TEX
You'll get better production
and longer service with PUR-O-TEX
Leading food processors, canners and packers favor this all-white, non-toxic conveyor belt. Ton-Tex Pur-O-Tex is made of plies of select cotton duck impregnated with special compounds to resist oil, grease, moisture and heat. Does not impart taste or odor to products conveyed. Can be cleaned like new. It is permanently pliable and can be vulcanized endless.
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1160 AUZERAIS AVENUE
SAN JOSE 26, CALIFORNIA
TON-TEX CONVEYOR AND TRANSMISSION BELTING
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# Only sharp knives can cleanly cut your product

*. . . improve product quality*
*. . . reduce product losses*

This Urschel Model "CKG" Circular Knife Honing Machine was developed to answer the many requests received for a dependable, precision knife sharpener.

**IT'S FAST** *(does the job in seconds).*

**IT'S AUTOMATIC** *(eliminates possibility of human error).*

**PRODUCES PERFECT CUTTING EDGES** *(far better than hand grinding).*

**SHARPENS WITHOUT WASTE** *(only a minimum of blade metal is removed, greatly extending life of knives).*

**IT'S COMPLETELY SAFE** *(motor cannot run while cover is open).*

Handles 3", 4" and 5" diameter knives for the Urschel Models listed here.

Compact, space-saving—it's only 15⅛" long, 13" wide and 10" high.

Write today for complete information

Designed for use on Urschel Models W, B, F, G, H, L, SL, R, AA, and U.

PRECISION HIGH-SPEED FOOD CUTTING EQUIPMENT

**URSCHEL LABORATORIES INC.**
VALPARAISO INDIANA

*Designers and manufacturers of precision, high speed cutting equipment for food products*

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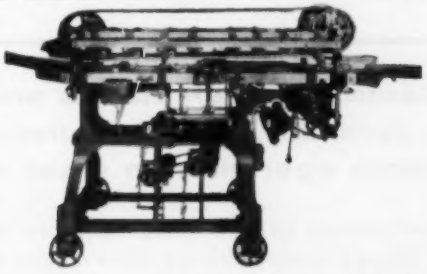
# PACK 2 LAYERS WITH 1 STROKE!



**BURT HIGH SPEED CASE PACKERS**

Just place the case . . . and your Burt Packer fills it with a single stroke. No delays, no time wasted. It's fast, accurate and money-saving.

**BURT**

## BURT MACHINE CO., 401 E. Oliver St., Baltimore 2, Md.

***Sold & Serviced in the West by:***

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**ALLIS-CHALMERS TAKES A LACING - TO IMPROVE PRODUCT QUALITY**

**Selects CLIPPER Hooks and Lacers for durability, easy installation, and smooth operation on small rollers**

Allis-Chalmers Manufacturing Company of Milwaukee, one of the nation's leading manufacturers of farm machinery and equipment receives multiple benefits and improvement in product quality by their application of Clipper hooks and lacers on Forage Blower and Harvester feed table aprons and draper type pick-up belts.

They find in the Forage Harvester and Blower that Clipper lacing makes possible use of protective shields against the draper. On all applications drapers are easier to install, run more smoothly on small rolls and are more durable. The material laced is two-ply rubberized material from 15½ to 35¾ inches wide and from .060 to .090 inches thick.

**For more information**— *Detailed product information and case history examples of Clipper machine-lacing benefits are contained in Bulletin No. 157. Send for your free copy today.*

*Ask your Industrial Distributor for Clipper Products*

Clipper BELT LACER COMPANY

994 Front Ave., N. W., Grand Rapids 2, Michigan


ing from malt and feed ingredients to dry chemicals, foods, and plastics such as polystyrene and polyethylene. Discharge outlets are placed at a minimum of 12 inches above rails so contents can be handled by all existing unloading systems.

MFR.: General American Transportation Corp., 135 S. LaSalle St., Chicago, Ill.

## Circulars, Bulletins Catalogues, Brochures

**Pallet Specifications:** A set of Minimum Standard Specifications for warehouse pallets made from Douglas Fir, Hemlock or Larch species of lumber has been issued—National Wooden Pallet Manufacturers Assn., 609 Barr Building, Washington 6, D. C.

**Wood Preservative:** Data bulletin describes Cunilate Western Wood Seal, a preservative formulated to meet the climatic and handling conditions of the West—Chem-Guard Products, Inc., 1015 Commercial St., San Carlos, Calif.

**Roller Gravity:** A new handbook, "Roller Gravity by Lamson," is directed to the engineer who uses conveyors to solve unit load handling problems—Lamson Corp., Syracuse 1, N. Y.

**Flow Rate Transmitter:** A new 12-page bulletin #170 describes the unusual design features of the Brooks MPT motion position transmitter—Brooks Rotameter Co., Box 432, Lansdale, Pa.

**Kaiser ACT Services:** Kaiser's Aluminum Consulting Team—or ACT—was formed to assist customers in gaining a "competitive edge in packaging" through a planned use of aluminum materials. The brochure explains how ACT operates—Kaiser Aluminum & Chemical Sales, Inc., Dept. NR-25, 919 N. Michigan Ave., Chicago 11, Ill.

**Temperature Controllers:** Specification sheet S1010-6 describes in detail the Versa-Tran Electronic Temperature Controllers for industrial heating and cooling operations—Minneapolis-Honeywill Regulator Co., Industrial Div., Wayne & Windrim Aves., Philadelphia 44, Pa.

**Equipment Catalog:** A 1959 catalog of new, used and rebuilt food processing equipment for canners and freezers is available—Otto W. Cuyler Corp., Webster, N. Y.

**Seed Catalog:** 31-page catalog describes vegetable seed varieties best suited to canning and freezing—Northrup, King & Co., Minneapolis 13, Minn.

# NEW PRODUCTS AND PACKAGES

## Pudding Cake Dessert

Pillsbury Mills, Inc. has introduced a new dessert that is baked like a cake and eaten like a pudding. It comes ready-mixed in two pouches—one containing a batter mix, the other a sauce mix. The two mixes are blended separately but are baked together.

Printed material for the pouches is supplied by Riegel Paper Corp., N. Y. A poly-coated pouch paper is used for the sauce mix while a special laminate of pouch paper and foil is used for the cake mix.

## Slim-Trim Drink

Central Canning Co., Inc. Cedarville, N. J., has introduced a new dietary beverage called "Slim-Trim." The new drink contains "Cylan" (Calcium Cyclamate), a sweetener developed by Dupont Co., Wilmington, Del.

The one - calorie - per - ounce formula was originated by George S. McCandless in cooperation with Dr. G. B. Fehmerling, a Miami food technologist. It is packaged in 46-oz. cans.

## Frozen Seafoods

Booth Fisheries Corp., Chicago, Ill., has introduced three new items to its line of frozen fish and seafoods. The new products are Booth 2-lb. Family

Pak de-veined, headless shrimp in the shell; 1-lb. Party Pak breaded fantail shrimp; and 10 oz. pre-cooked breaded fish steaks. All three packages use Marathon Glamakote overwraps by Marathon, Menasha, Wis.

## Jellied Cherry Sauce

A new cherry product produced by the Cherry Growers, Inc., of Traverse City, Mich., is being marketed under the Reddi-Maid brand. The product is a jellied cherry sauce made from red tart cherries, cherry juice, sugar, corn syrup and pectin. Its consistency is such that it can be removed from the can as a cylinder and sliced for use on salads or as a sauce with meat.

## Frozen Hamburger Steak

Pfaelzer Brothers, Inc., Chicago, Ill., has introduced a hamburger steak that is molded in the exact shape of Pfaelzer's boneless sirloin strip steak. The 8-oz. steak, containing less than 15% fat, is blast frozen and layer packed.

## Carnation Fish Products

Seafare Corp., Los Angeles, Calif., a trademark licensee of Carnation Co., is packaging a complete line of fresh frozen seafoods under the Carnation brand. The full-color overwraps are

Prompt service to belt users is assured by two factories, one in the Middle West and one on the Pacific Coast.

Cyclone Fence Dept.
American Steel & Wire
Division of
United States Steel

USS

Manufactured at Waukegan, Ill. and Oakland, Calif.
Sales Offices, Coast to Coast

CY BELT says

"I can eliminate 'time lag' and speed production!"

Too often material in process can go only so far, and then must wait until somebody carries or pushes it to the next stage in the production line. The delay caused by the need for manual handling can frequently be eliminated by a *complete* conveyor system that reduces manual handling to the absolute minimum. Time is saved, unit costs are reduced, and the profit margin is widened. A trained Cyclone salesman can analyze your present materials-handling system to uncover time-wasting procedures, and suggest improvements. His analysis costs nothing, and his recommendation will be tailored to *your* plant and *your* needs. Just fill in the coupon.

*USS and Cyclone are registered trademarks*

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Please send me, without obligation, your catalog No. 5 on Cyclone Processing Belts.

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Company.....
Address.....
City..... State.....

# IN-LINE CODING AND MARKING EQUIPMENT

**PERFORATING TYPE HOLDER**

Perfect for package coding on glassine plastic and similar wrappings. Coded characters appear as a series of perforated dots. Used in conjunction with wrapping machine.

**CODER**

Mounted at point of sealing and closing unit, this device produces both dot design and flat character coding on the flap edge prior to sealing. Character sizes up to ½" may be used.

**HOT CODING UNIT**

Used with either horizontal labeling machines or box filling line equipment. Controlled heat to type characters produces a contrasting mark on lacquered labels—a branded impression on set-up boxes.

Write today for complete information!

**JAS. H. MATTHEWS & CO.**

3925 Forbes Ave. • Pittsburgh 13, Pa.

Offices in Principal Cities

WRITE, CALL OR TWX PG424


designed and produced by Western-Waxide Div., Crown Zellerbach Corp., San Leandro, Calif.

### Tutti-Frutti Dessert

H. J. Heinz Co., Pittsburgh, Pa., has added a new Tutti-Frutti dessert to its baby food line. The dessert is a fruit blend of oranges, apricots, pineapple,

and lemons. It is packed in 4½-oz. strained and 8-oz. junior sizes. The strained size is the latest Heinz product to be packed with new screw top jar.

### White Clam Sauce

Buitoni Foods Corp., South Hackensack, N. J., has introduced nationally a heat-and-serve Clam Sauce for use on

macaroni, seafood, etc. The sauce features fresh clams and is packaged in 10¼-oz. cans.

### New Package Briefs

**J. Kozloff Fish Distributors, Inc.,** Detroit, Mich., is packaging its line of nationally distributed "Lake Fresh" quick frozen fish in a new 5-lb. institutional carton designed and manufactured by the Boxboard & Folding Carton Div., Continental Can Co.

**Richmond-Chase Co.,** San Jose, Calif., has redesigned its packages for its complete line of canned and dried fruits, canned vegetables and nectars. The new packages were designed by Frank Gianninoto & Associates; labels by Muirson Label Co., Inc.

**Durkee Famous Foods,** Berkeley, Calif., is using a jar with graduated markings for packing Durkee's Mayonnaise. Markings are indicated in ounces ranging from 2 to 16 oz., and in ⅓ and ¼ cup measurements, thus giving the jar a reuse value as a measuring device. Jars are manufactured by Owens-Illinois Glass Co., San Francisco; closures by Crown Cork & Seal Co., Inc., Baltimore.

**Shedd-Bartush Foods, Inc.,** Detroit, Mich., is using two styles of quart glass containers in packaging Shedd's Lady Betty Prune Juice. One is a decanter with a twist-off cap, the other is a juice bottle with a pry-off closure. Caps are by White Cap Co.; spot labels by Kalamazoo Label Co.; decanters and bottles by Anchor Hocking Glass Corp.

**Red Heart Div., John Morrell & Co.,** Chicago, Ill., has adopted a new label for its Red Heart Cat Food. Designed by Dickens, Inc., of Chicago, the label is an abstract illustration of a cat. Labels are by Muirson Label Co.

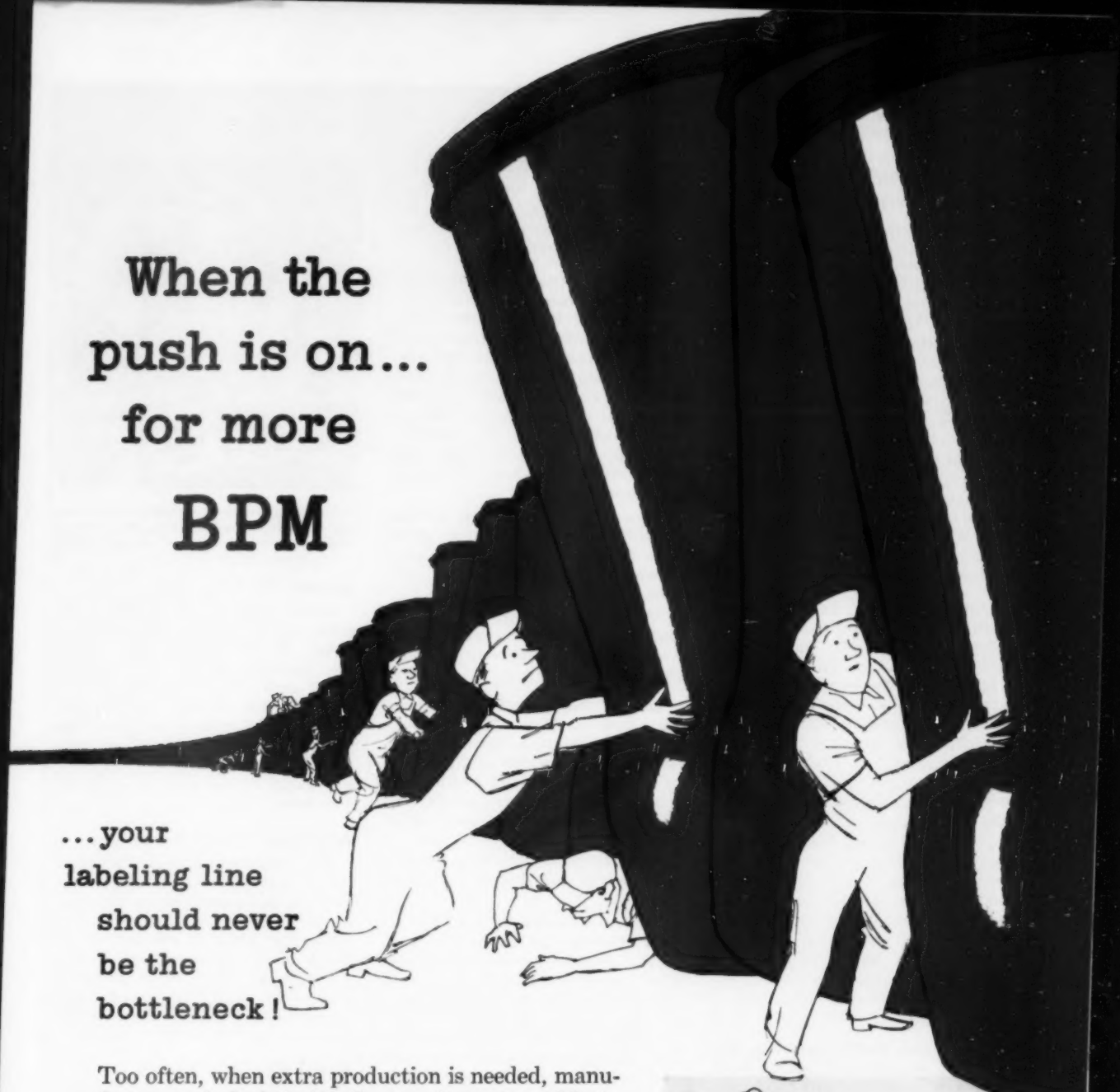
**Kroger Company,** Cincinnati, Ohio, has adopted a family design for its line of frozen foods. The new packages have a clean uncluttered look because a minimum amount of words are used on the front panel. Kroger's design division worked with the Pollock Paper Corp. in developing the family of packages.

**Baumer Foods, Inc.,** New Orleans, La., is using lithographed labels on metal cans for packaging its Crystal brand cut Okra. The 303 by 406 one-lb. cans are decorated and supplied by American Can Co.

**Brooks Foods, Inc.,** Collinsville, Ill., is now packaging its Peter Pan catsup in a 20-oz., family size bottle. Bottles are by Owens-Illinois Glass Co., Toledo, Ohio; lug closure, White Cap Co., Chicago; and label, United States Printing and Lithograph Co., Cincinnati, Ohio.

**Breast-O'-Chicken Tuna, Inc.,** San Diego, Calif., is offering three 6½-oz. cans of tuna packaged in a new wrap-around foil multipack. The multipack is manufactured by the Boxboard & Folding Carton Div., Continental Can Co.

# When the push is on... for more BPM

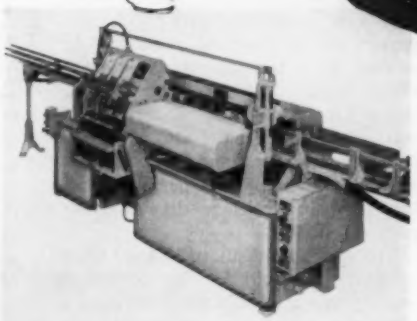


...your labeling line should never be the bottleneck!

Too often, when extra production is needed, manufacturers find their labeling equipment unable to keep pace . . . Result? . . . extra shifts or lost business.

Manufacturers who equip with Super C.M. Labelers cure this headache before it has a chance to start. For continuous, high speed labeling, the Super C.M. comes in several models . . . offers capacity up to 320 bottles per minute.

Eliminate costly overtime or extra shifts—get the complete story on versatile World Labelers . . . today.



SUPER CM LABELER

Good Labeling *Sells!*

**WORLD LABELERS**

ECONOMIC MACHINERY COMPANY • WORCESTER 3, MASS. / Division of Geo. J. Meyer Manufacturing Company

## Can the Multiple Package Increase Canned Food Sales?

**Val Bauman, National Tea Co.:** "The retailer likes multiple packaging because it increases our volume and reduces our handling. It cuts our cost of doing business. Since the retailer is demanding it, and tests show that it increases sales, the packer cannot afford not to consider multiple packaging seriously.

"Within the next few years, multiple packaging will become just as much a part of manufacturing as caps, labels, cans and bottles. When it becomes an accepted marketing method, the true economic cost of the product is adjusted either up or down, dependent upon whether the costs exist at all, or whether the increased sales offset the increased packaging costs."

**James A. Glover, Coastal Foods:** "I had experience with multipacks in selling cranberries with National Cranberry Assn. back in 1954. Our deal was, 'Buy two to save 5c'. We increased sales 68% in 90 days with multipacks, but it cost 97c a case to sell and afterwards the volume dropped back to the previous level. I felt that a less dramatic program would be far more beneficial from the standpoint of basic and inherent cost.

"With Consolidated Foods, we came in at the tail end of a multipack program for soups. During the 120-day program sales dropped 65%. When we pulled the multipacks, the level rose. Cost was 28c a case.

"I feel that multipacks are something of a desperate measure. They have a definite limit in merchandising canned foods."

**Len Kanter, Staff Supermarket Associates, Inc.** (former editor, Food Topics): "I witnessed proof that consumers like this method of buying. In setting up a test of multipacks for Food Topics and the Mead-Atlanta Paper Co., every road block to sales was set up for the multi-pack. No special concessions, and one week following another with no special inducement for six weeks, made the multipack sell itself.

"It was found that 23.4% more product was sold in the combined week with multipacks available, versus the comparable period of single units only. Applesauce registered the largest sales gain, and vegetable soup was second.

"Perhaps the most impressive measurement is in comparing special displays. Single unit displays increased sales 79.5% over shelf positions. When multipacks were used in the special display, sales shot up 137.4% over normal shelf locations."

**William L. Dempsey, Jr., Container Corp. of America,** Philadelphia, Pa.: "Multiple packaging no longer needs help from price cutting or special promotions. It pays its own way. It will sell products today that it would not sell, when it was used improperly in the past. Packers became discouraged with multiple packaging with special deals and gimmicks. Gains kept getting smaller with each progressive promotion.

"In a test with the Maine Sardine Council, multipacks greatly increased sales. A three-pack without loose cans showed a gain of 34% over just loose cans.

"A series of tests with the National Canners' Association showed that with a multipack the commodities must be consumed fast."

**Edwin C. Kraus, Big Stone Canning Co.,** Ortonville, Minn.: "Our company was the first to try multipacks in canned vegetables. In 1949 with a surplus of corn, we developed a unit that effectively snafued every labor-saving device known to man. We were able to command a premium of 5 cents a dozen. The packs helped to substantially increase our sales and got us new business.

"Repeat sales laid an egg. Our experience shows that multipacks should only be used for promotion purposes. They should never be a steady diet, but only repeated every two or three months. The package should be light enough for the shopper to carry easily. Use the highest multiple you can sell and keep the price below $1. The shelves should always be stocked."

**Chris FitzGerald, Packaging Parade:** The National Canners Assn.'s Philadelphia project illustrated that the performance of multipacks varies widely from one category of product to another. I seriously doubt that it can do for canned vegetables what it can do for soft drinks and beer. The many, many products which fall between the two extremes of very high turnover and very low turnover would seem, many of them, to have very definite possibilities for dramatic sales increases through the use of multiple packaging."

*—From panel discussion of multipacking at National Canners Assn. Convention, Chicago, Feb. 22.*

**NATIONAL CANNED PEA QUEEN shows two display materials available to the grocery trade to stimulate sales of canned peas.**

## Atlantis TV Campaign

Atlantis Sales Corp., marketing organization for R. T. French Co., Rochester, N. Y., has planned a television campaign on 100 CBS stations for French's Worcestershire Sauce. The firm has selected four daytime shows. They are: Love of Life, Edge of Night, The Verdict is Yours, and Art Linkletter's Houseparty. Advertising agency for the sauce is J. Walter Thompson Co., N. Y.

## Alabama Peanut Promotion

The Alabama Peanut Producers Assn., representing 18,000 peanut growers, has announced an increased consumer promotional campaign for 1959. The program will be concentrated on peanut butter and peanut candy, according to H. H. Knowles, association president. Promotional support will be given to brands which are major users of Alabama peanuts.

## Kraut Ads Win Award

A prize for outstanding ad performance was awarded to the Fremont Kraut Co., Fremont, Ohio, by the Cleveland Advertising Club. The award winning campaign was for Snow Floss Sauerkraut and Kraut Juice and was handled by the Bayless-Kerr Co. A certificate was also awarded to D. B. Slessman, chairman of the kraut company.

## New Campaign

Chun King's advertising budget for this year will be in excess of $2,250,000. J. Walter Thompson, Chicago, is the firm's agency.

## MERCHANDISING CALENDAR

*see page seventy-four*

Concentrate on the best solution to all your packing needs and problems: Crown. Crown's outstanding lithographic service has designed and produced many of the cans which disappear fastest from the freezer bins. Crown technical representatives, with advanced skills and practical experience, stay with you until your product, processing and plant problems are solved. Conveniently located warehouses give you 24-hour delivery. It will pay you to concentrate on Crown.

*for cans • closures • crowns • machinery* **CROWN**

**CROWN CORK & SEAL COMPANY, INC., 9300 Ashton Road, Philadelphia 36, Pa.**

## SUPPLIERS NEWS

### Companies & Plants

**American Can Company's** sales in 1958 amounted to $1,037,032,365. This was an increase of 3.1% over the 1957 total of $1,006,304,940.

**Fibreboard Paper Products Corp.** has consolidated its New York sales offices for its "Pabco" Floor Covering and Industrial Insulations Divisions and the National Packaging Sales—"Fibreboard" Brands. Offices are now located at 200 East 42nd St.

**Lansing B. Warner, Inc.,** Chicago, Ill., reported a 1958 savings totaling $1,366,591.70. This is the seventh consecutive year that these annual refunds have exceeded $1,000,000, and increases the total of direct Savings to Policyholders to $34,427,012.40.

**Ball Brothers Co., Inc.,** Muncie, Ind., will build a multi-million dollar glass container manufacturing plant on the outskirts of Asheville, N. C. Production will begin late this year.

**Owens-Illinois Glass Co.,** Toledo, Ohio, will begin operation at the company's third Latin American glass container plant in Bogota, Columbia. The company has bought the physical assets of Vidrio S. A., a firm which discontinued operations last year.

**Dow Chemical Co.,** Midland, Mich., has begun full-scale production at its Cleveland plant of Trycite. Trycite was introduced last year as a low cost, thin gauge, flexible packaging film made of polystyrene.

**Revere Copper and Brass Inc.,** New York, has opened an eastern district office of its Foil Container Div. in New York City. **Daniel H. Sangster** was appointed eastern district manager of the division.

**Fairmont Glass Works, Inc.,** Indianapolis, Ind., has increased its productive capacity by 50% as a result of a $3 million expansion program started in April, 1958. New facilities include six automatic bottle-making machines, an annealing lehr room, a two-story packing and selecting room and warehouse accommodations.

**Kaiser Aluminum & Chemical Corp.** announced plans to move its general sales offices from Chicago to Oakland, Calif. The firm plans to retail in Chicago its present regional and district sales headquarters, and an executive office.

**Hoerner Boxes, Inc.,** Keokuk, Iowa, announced plans to build sheet plants at Tupelo, Miss. and Springfield, Mo. in 1959. The buildings will be identical in design, and occupy approximately 40,000 sq. ft. of space. The Tupelo plant will be in operation by early summer. The manager will be Forrest R. Hamilton.

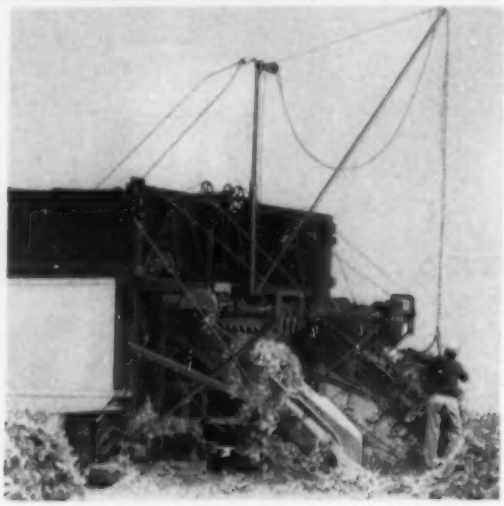
### Men in the News

**Max M. Kipfer,** general manager of Aluminum Company of America's closure division since 1953, has retired after serving 34 years with the firm.

**John E. Greb** was promoted to the position of chairman of the board of directors, G&H Products Corp., Kenosha, Wis. Al Mengo, Sr., was elected president and Joseph S. Kessler, vice president.

**Earl Pierce, Jr.,** was appointed sales representative of Milprint, Inc., Milwaukee, Wis. He will headquarter in Dallas, Texas, and will represent the


ONE Man Can Feed TWO VINERS-- Easier and Better with...



KEY VINE FEED REGULATORS AND HOIST ATTACHMENT

- Handles 9,000 to 12,000 Lbs. of Vines Per Hour—
- Levels Out Vines to Prevent "Skips" or Large Bunches from Entering Viner—
- Assures Better, Cleaner Threshing—
- Larger Pea and Lima Bean Recovery Resulting from STEADIER Feeding—
- Hoist Can Be Either Driven Mechanically from Viner or Operated from 220V 3 phase Electric Current—
- 1457 KEY Vine Feed Regulators In Use in 1958—
- Over 300 KEY Vine Feed Regulators now on order for 1959—
- Repeat orders resulting from trial installations account for our biggest sales—

Frank HAMACHEK MACHINE COMPANY

WRITE TODAY For Detailed Information and Prices.

Established 1880 Kewaunee, Wisconsin

PEA AND BEAN HULLING SPECIALISTS

firm in northern Texas and southern Oklahoma.

**Ronald V. Lints** was named advertising manager of Fischer & Porter Co., Hatboro, Pa.

**Stephen E. Hills,** account executive for the Can Manufacturers Institute, has been named a vice president of the public relations firm of Milburn McCarty Associates, N. Y.

**Henry Gehle** was appointed Cleveland sales representative of the Western-Waxide div. of Crown Zellerbach Corp., San Francisco, Calif. Gordon Swanson was appointed sales representative in Minneapolis, Ohio.

**Ruth Kitchen,** advertising manager, Dodge & Olcott, Inc., N. Y., has retired from active service. She is continuing as an advertising consultant and editor of the firm's external house organ. Mrs. Kitchen was replaced by her assistant, Miss Gloria Page.

J. M. Duncan

B. C. Betner

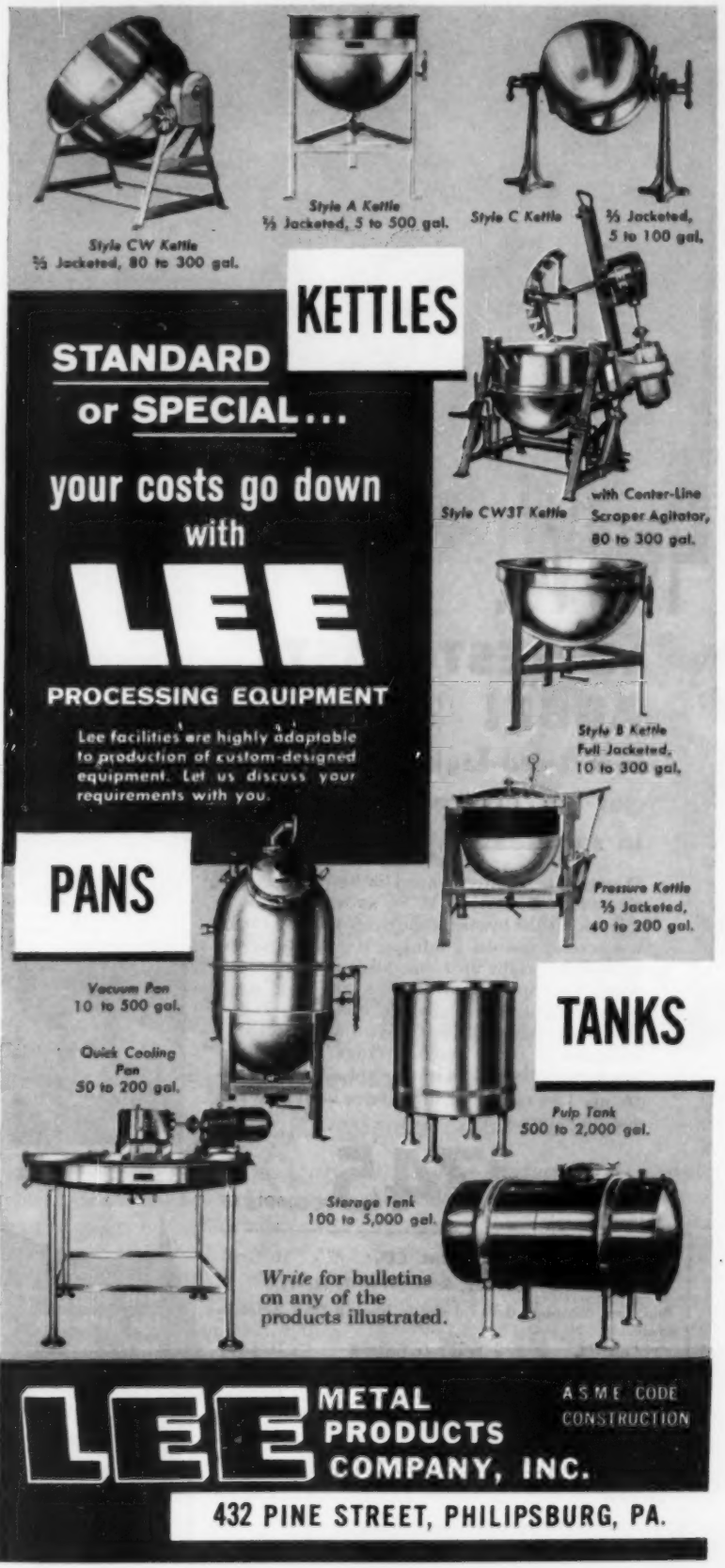
W. D. Morton

L. R. Niemiec

**Benjamin C. Betner, Jr.,** a vice president of Continental Can Co., has been appointed vice president and general manager of the company's Flexible Packaging Div. Herbert Holbrook was appointed general sales manager of the division. **John M. Duncan** was appointed Eastern regional sales manager and **Walter D. Morton,** New York district sales manager for the Hazel-Atlas Glass Div.

**Leonard R. Niemiec** was promoted to vice president in charge of sales, Field Paper Box Co., Chicago, Ill. Mr. Niemiec has been with the firm for over ten years.

**Fred B. McNamara** was promoted to Central Division sales manager for National Can Corp. **S. V. O'Donnell** has been appointed assistant to Mr. McNamara, specializing in account development. Other managerial changes

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## LOWEST-COST ABBE!

**Just Load-Light-Look... get top accuracy readings in seconds!**

Dependable quality control is high-speed routine with a B&L Abbe-3L Refractometer . . . and the price is the lowest in the field. You can easily test several samples a minute. Horizontal prism assembly is right up front, loads or wipes in a wink. Duo-Speed control gives you rapid scanning or fine line setting at the touch of a finger. Precision scale reads instantly to .0005; reliable estimates to .0001. Practical range: $n_D$ 1.30 to $n_D$ 1.71. (NEW! High Range Abbe-3L, $n_D$ 1.45 to $n_D$ 1.84 range, for high-index liquids. Write for quotation.)

**LOAD!** Front horizontal prisms for easiest loading ever.

**LIGHT!** Comfortably low-positioned hold-down switch lights scale.

**LOOK!** See accurate reading instantly on illuminated scale.

**ONLY $745 COMPLETE**

**BAUSCH & LOMB OPTICAL CO.**
**69740 St. Paul Street, Rochester 2, N. Y.**

Send me complete data on the following B&L Refractometers:

☐ Abbe-3L ☐ Industrial ☐ Hand
☐ High Range Abbe-3L ☐ Butyro ☐ Juice
☐ Precision ☐ Oil Grading ☐ Dipping
☐ I'd like a demonstration of the models checked above.

NAME, TITLE .....
COMPANY .....
ADDRESS .....
.....

MAIL COUPON FOR DATA AND ON-THE-JOB DEMONSTRATION OF INDUSTRY'S MOST COMPLETE LINE.


include **R. B. Ganugh,** sales manager for the Chicago district; **B. F. Batcheler,** sales manager for the Wisconsin-Michigan-Minnesota district; and **C. O. Wood,** sales manager for the Ohio-Central Indiana district.

E. C. Emanuel

Dr. J. M. Sharf

**E. C. Emanuel,** general manager, Glass and Closure Products Research, Armstrong Cork Co., Lancaster, Pa., was appointed manager of a new department—Customer Technical Services. **Dr. John M. Sharf,** assistant general manager of Glass and Closure Products Research, was promoted to general manager to succeed Mr. Emanuel.

W. F. May

C. L. Alexander

**William F. May** was elected vice president in the executive department of American Can Co. **J. Whitney King** was appointed manager of sales promotion and advertising of the Canco Division and **David G. Bernard,** general manager of the division's sales.

**Claude L. Alexander** was appointed vice president and general manager of the Bradley-Sun Div., American Can Co., New York, N. Y. He succeeds Kenneth M. Leghorn, who has resigned.

**Faustin J. Solon,** vice president of Owens-Illinois Glass Co., Toledo, Ohio, retired recently after 48 years of service.

**Arthur W. Tower** was appointed general sales manager, Fibre Can Div., Sefton Fibre Can Co., a division of Container Corporation of America, Chicago, Ill.

### Obituaries

**Richard S. Brautigan,** 53, sales promotion and marketing specialist formerly associated with the American Can Co., died recently. Mr. Brautigan was a New York resident.

## WHY MORE WOMEN PREFER THEIR SPICES IN GLASS!

**Safe from air... and dampness... even after resealing**

## The flavor and aroma of spices stay fresh longer when delivered in Owens-Illinois glass containers

Glass containers preserve the wonderful, distinctive flavors of spices even after they have been opened and resealed. That's why a panel of homemakers from all sections of the United States recently reported they prefer glass over any other type of package for spices.

Glass is the most nearly *inert* of all materials. It won't add to nor subtract from the flavor of the product inside the jar. Spices look their best in glass, too. And there's less chance for spillage. In glass, spices are easier to remove, easier to handle, easier to store.

The requirements of both homemakers and spice packers guided Owens-Illinois in developing these attractive packages for spices.

Give *your* product every marketing advantage in building continuing sales, through the Owens-Illinois Complete Packaging Approach—the right Duraglas® Container, fitment, and closure . . . attractive, eye-catching label designs . . . shipping cartons imprinted with your sales message. Call the nearest Owens-Illinois office for full information.

DURAGLAS CONTAINERS
AN (O) PRODUCT

**OWENS-ILLINOIS**
GENERAL OFFICES · TOLEDO 1, OHIO

## INDUSTRY NEWS

### Ralston Purina Forms New Dog Care Division

Ralston Purina Co., St. Louis, Mo., has established a new Dog Care Div. which will offer services to pet-owning consumers. C. C. "Tex" Fawcett, for many years a member of firm's advertising and promotion department, has been appointed director of the new division.

Mr. Fawcett is responsible for developing information about dog nutrition, care and management. The company will use this information in setting advertising and marketing campaigns for Purina Dog Chow. This information will also be published in bulletins and pamphlets for use by pet-owners throughout the country.

### Musselman Honors Its Top Tomato Growers

C. H. Musselman Co., Biglerville, Pa., recently honored six 1958 Pennsylvania Master Tomato Growers, whose crops were grown for the canning company. They were awarded citations at an informal dinner held at Warner's Dairy, Red Lion, Pa. Additional guests included other top growers and their wives from Adams, York and Lancaster counties.

The top six growers will receive added recognition at the company's annual tomato growers banquet which will be held this month at Biglerville.

**DO YOUR PROFITS STACK UP FAVORABLY with increasing sales?**

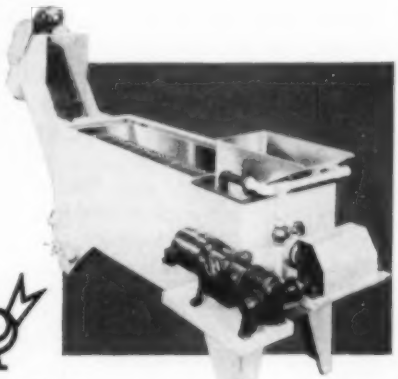
It doesn't pay to sell something you can't produce profitably. That's why . . . with the demand for food products spiralling up, and headed for phenominal heights in the sixties . . . it's important to review the efficiency of your processing machinery.

Inefficient machinery is the greatest enemy of profitable production. Modern Robins equipment can help you increase production, reduce operating costs, maintain consistently high quality. Call on Robins for a single machine . . . or a completely integrated production line.

Now is the time to see how and why Robins-engineered equipment is important to you . . . call your Robins representative. Or . . . write for FREE ROBINS CATALOG.

**AN EXAMPLE . . .**

**The Robins Roto Screw Caustic Peeler cuts cost by greatly reducing peeling losses.**



*A.K.Robins*
*AND COMPANY, INC.*

*Manufacturers of Food Processing Equipment Since 1855*
**713-729 E. Lombard Street, Baltimore 2, Md.**


### Loretta Laboratories Buys Seasoning Div.

Loretta Laboratories, N. Y., announced that they have purchased the G. Washington Food Seasoning Div. from American Home Food Products. Included in the purchase was all the equipment, formulas, and "know how."

The firm emphasized the fact that the product will be manufactured exactly as it has been in the past by American Home. Prices and quantity allowance will remain unchanged.

### Fire Destroys Warehouse

Early in January, fire destroyed the Superior Packing Co. of Bradford, Ontario. Damage was estimated at more than $20,000. Paul Catania, plant manager, said that the machinery was only slightly damaged and is being moved to another building. He added that most of the produce stored there had been moved out during the holiday season.

### Men in the News

**John W. Lusk, Jr.** has been named senior sales representative for industrial sales at the Philadelphia branch office of A. E. Staley Manufacturing Co., Decatur, Ill. **Edgar J. VanAllsburg** has joined Staley's industrial sales department as technical supervisor in the firm's New York office.

Alvin Cohn

James H. Black

**Alvin Cohn** has been named president of Continental Coffee Co., Chicago, Ill. Jacob Cohn, his father and president of the company since its

## You name it...

# STANGE

## will season it better!

. . . because with Stange, seasoning is both a science and an art: Science —in processing the basic seasonings: Art—in the application of these seasonings to your products to achieve distinction in their field for flavor and eye-appeal.

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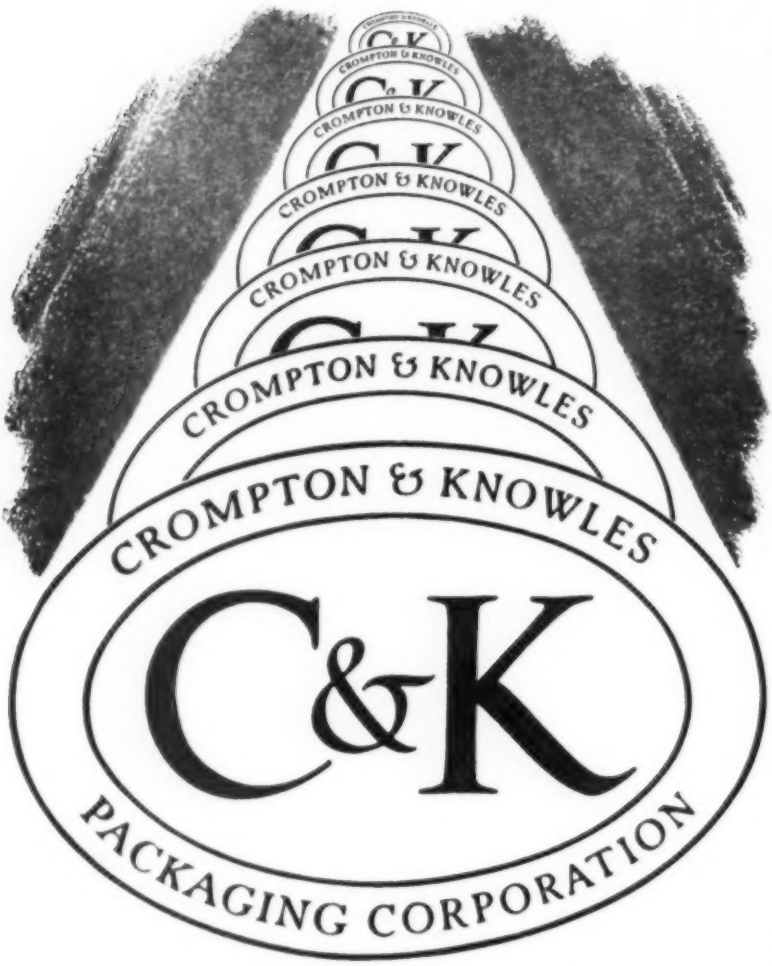


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C & K Packaging not only sells a complete line of automatic packaging machinery — including case openers and positioners, case packers, gluers, sealers, depalletizers, overwrapping and bundling equipment — but, today can offer to all industry a complete service for the solution of packaging problems.

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founding in 1915, has become chairman of the board.

**A. Paul Bowman,** operations manager, Oscar Mayer & Co., Madison, Wis., has been appointed a member of the Sausage Committee of the American Meat Institute, Chicago, Ill.

**Henry C. Engel** was elected vice president in charge of operations, Lord-Mott Co., Baltimore, Md. Mr. Engel has been with the firm since 1940 and has served as secretary-treasurer.

**Harry J. Carlson** was appointed Southwestern division supervisor — frozen foods, Campbell Soup Co. He will headquarter in Dallas, Texas.

**Ken Werth** has been appointed to the sales promotion and advertising department of the Fall River Canning Co., Fall River, Wis. Mr. Werth will conduct a public relations program throughout the company's operations.

**Delbert F. Wright,** assistant to the president, General Mills, Inc., Minneapolis, Minn., has been elected a vice president of the company. In his new capacity, Mr. Wright will coordinate the activities of the president's office with those of the chairman of the board.

R. L. Latzer

T. R. Gamble

**Robert L. Latzer** was elected chairman of the board of Pet Milk Co., St. Louis, Mo. **Theodore R. Gamble** was elected to succeed Mr. Latzer as president of the firm. **Gordon Ellis** and **Lester G. Leutwiler** were elected vice presidents.

**Louis C. Anthes** was appointed sales manager of the S. E. Mighton Co., Bedford, Ohio, manufacturers of canned and pet foods.

## Obituaries

**James E. Vogts,** 64, a Washington, D. C., food broker, died recently at his home in Silver Spring. Mr. Vogts had formed his own food brokerage firm in 1948 and maintained offices in Silver Spring.

**William A. Gilmore,** 81, president, Durand Canning Co., Durand, Wis., since 1944, died recently in Phoenix, Arizona, where he was spending the winter.

# *Profitable Brands Start With Cherry-Burrell*

Smooth. Even textured. Pours easy, too. On meats from steak to hot dogs. Del Monte Tomato Catsup is the flavor favorite of so many families.

Pineapple distilled vinegar makes tomato flavor come alive in Del Monte Catsup — every bottle, every time. Cherry-Burrell Superhomo homogenizers are used to insure this flavor uniformity — smooth, even texture, too.

Superhomo homogenizers do the job so thoroughly there's no chance of liquid separation back to a pre-homogenized state. High-speed shearing action of homogenizing valve reduces pectin particles to equal size. Disperses them, plus flavoring oils and other ingredients, evenly throughout the product.

**In-plant profits, too.** Hydraulic sealing for maximum wear. Pressure inside of cylinder block takes over during operation. Completely seals all gaskets. Gives longer gasket and plunger life. Low operating pressures cut down peak load demands, reduce wear on moving parts.

Another Cherry-Burrell product used extensively in the food industry is the Thermutator heat exchanger. Specially designed for use on heavy-bodied products, it heats to 350° F., cools to – 50° F. without burn-on or freeze-on.

A Cherry-Burrell Sales Engineer will be glad to show you how these and other Cherry-Burrell products can help solve your processing problem. Call today. *Sales and service in 58 cities.*

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CORPORATION
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**Food • Dairy • Farm • Brewing • Beverage Chemical • Equipment and Supplies**

## ASSOCIATION ACTIVITIES

### Sorensen Heads NCA Milan Smith, Vice Pres.

Norman Sorensen, chairman of the board of Country Gardens, Inc., Milwaukee, Wis., was elected 1959 president of the National Canners Assn. at its convention in Chicago, Feb. 21. He succeeds Edward Burns, president of Alton Canning Co., Alton, N. Y.

Milan D. Smith, president of the Smith Canning and Freezing Co., Pendleton, Ore., was elected 1959 vice president. Mr. Smith was executive secretary to Secretary of Agriculture Ezra Benson from 1954-57.

Carlos Campbell of Washington, D. C., was continued in office as executive secretary-treasurer.

Twenty-four new directors were elected to the NCA board. They will serve a three-year term. Six members were elected to fill unexpired terms.

The new directors for three-year terms are:

J. P. Arthur, Shenandoah Valley Apple Cider & Vinegar Corp., Winchester, Va.
Luke F. Beckman, The Minster Canning Co., Minster, Ohio
K. S. Benedict, Alexander & Baldwin, Ltd., San Francisco, Calif.
Paul Benson, Green Giant Company, Le Sueur, Minn.
F. Webster Browne, Snow Flake Canning Co., Brunswick, Maine
S. B. Bush, Bush Bros. & Co., Dandridge, Tenn.
David L. Dulany, John H. Dulany & Son, Inc., Fruitland, Md.
J. J. Edwards, Besco Products Co., Zebulon, Ga.
Robert K. Free, Hungerford Packing Co., Inc., Hungerford, Pa.
Stary Gange, Pacific Olive Co., Visalia, Calif.
Earl W. Kale, C. W. Kale Canning Co., Everson, Wash.
Stephens J. Lange, Owatonna Canning Co., Owatonna, Minn.
Lewis H. Moore, L. H Moore Canning Co., McAllen, Texas
Gary Morgan, John C. Morgan, Traverse City, Mich.
O. V. Otteson, Friday Canning Corp., New Richmond, Wis.
Earl A. Randall, North Ogden Canning Co., Ogden, Utah
P. V. Rea, United States Products Corp., Ltd., San Jose, Calif.
Gus Robert, The Cudahy Packing Co., Omaha, Nebr.
P. A. Schmith, Stokely-Van Camp, Inc., Indianapolis, Ind.
George C. Seybolt, Wm. Underwood Co., Watertown, Mass.
Farmer Smith, Stayton Canning Co., Cooperative, Stayton, Ore.
Robert E. Snively, The Illinois Canning Co., Hoopeston, Ill.
Edward C. Steele, The Red Wing Company, Inc., Fredonia, N. Y.
S. G. Tarrant, Pacific American Fisheries, Inc., Bellingham, Wash.

Directors elected to fill unexpired terms:

Fred C. Black, Black & Gay Canners, Inc., Thomaston, Maine
Max J. Gorby, California Marine Curing & Packing Co., Terminal Island, Calif.
Alfred A. Morici, Contadina Foods, San Jose, Calif.
Sherman Morse, Jr., Beech Nut Life Savers, Inc., Canajoharie, N. Y.
John Shafer, Hawaiian Pineapple Co., Ltd., San Jose, Calif.
Ryland Thomas, Griffin Manufacturing Co., Muskogee, Okla.

### NAFFP Adds New Staff Member

The National Association of Frozen Food Packers announced the addition of a new staff member—C. Bertram Plante. Mr. Plante had previously been with the National Wholesale Dry Goods Assn.

### Canadian Processors Elect New Officers

The Canadian Food Processors Assn., Ottawa, Canada, has elected the following officers for 1959. President—L. D. Clark, W. Clark Ltd.; past president—T. R. Bulman, Bulmans Products Ltd.; 1st vice presi-


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ABC
PICKING
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ABC's vast forest, sawmill and factory facilities assure immediate service.

We will gladly send information on the use of wooden picking boxes in mass production and automation handling methods.

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dent—B. Ormseth, Green Giant of Canada Ltd.; 2nd vice president—T. C. Peterson, Alberta Canning Co. Ltd.; treasurer — W. H. Heeney, Heeney Frosted Foods Ltd.; manager —P. R. Robinson; and secretary—Mrs. S. E. Gilchrist.

### GMA Announces Committee Changes

Four committees of the Grocery Manufacturers of America, Inc., have been reorganized for more effective handling of expanded activities, according to Paul S. Willis, president.

The GMA Merchandising Committee in New York has changed its name to the GMA Marketing Committee and now has, in addition to a chairman, two vice chairmen and a small advisory committee. Lee Bickmore, National Biscuit Co., was named chairman of the Marketing Committee.

GMA Merchandising Committees centered in Chicago, Los Angeles and San Francisco will retain the name but will also add vice chairmen and advisory committee. William G. Mason, Quaker Oats Co., is serving as chairman.

GMA Traffic Committee, besides a chairman, now has four regional vice chairmen and a six-man advisory committee. J. R. Staley, Quaker Oats Co., is chairman.

### Association of Canners State and Regional Secretaries

PRESIDENT—Robert J. Marsh, Canners League of California, San Francisco, Calif.

VICE PRESIDENT—Charles R. Carry, California Fish Canners Assn., Inc., Terminal Island, Calif.

SECRETARY-TREASURER — Dr. Wilbur A. Gould, Ohio Canners and Food Processors Assn., Worthington, Ohio.

### Canners Donate Foods

The National Canners Assn. donated a truckload of assorted canned foods for the relief of flood victims to the Red Cross Disaster Headquarters. The donation totaled approximately 3,000 cans and jars with an estimated value of $1,800.

### Correction

In the February issue of CANNER/PACKER an item appeared in this department which had this head—GMA Announced Results of Food Broker Survey. The first line read "Glass Manufacturers of America, Inc., announced the results of a survey concerning food brokers . . . " It should have read "Grocery Manufacturers of America . . ."


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MODEL 273
Capacity 12 lbs.

## for fast, accurate control of package weights

EXACT WEIGHT Scales can be the difference between savings and waste—between profits and loss! With Exact Weight, even fractional ounces show large and distinct thus permitting your operators to make accurate readings at a glance. The indicator comes to rest quickly for greater speed as well as visible accuracy. No leveling required.

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MODEL 213
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MODEL 900
Capacity 25 lbs. Indicator travel is 2 in. over and under, equal to 4 oz. over and under. Write for Bulletin 3324.

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# Classified Advertising

**RATES:** Help wanted, positions wanted, machinery and equipment wanted or for sale or other classified notices—15 cents per word, 75c extra for blind box number. Minimum charge $4. Terms net prepaid. Classified ads are set in 6-point type. No cuts or special border permitted. Each line of capital letters charged for as two lines.

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**MODERN REBUILT PROCESS MACHINERY AVAILABLE AT GREAT SAVINGS PROMPT DELIVERIES**

Standard Knapp 429 Carton Sealers with Compression Units.
A-B-C and Ferguson Carton Sealers.
Pneumatic Scale Cartoning Line consisting of Automatic Feed, Wax Liner, Fillers, Bottom Sealer, Top Sealer and Compression Unit.
Pneumatic Scale Tite Wrap Machine.
Jones Model CMV Constand Motion Adjustable Cartoner.
Package Machinery, Hayssen, Scandia, Hudson Sharp Wrappers, all models.
Werner & Pfleiderer 3,000 gal. and 3,500 gal. Jacketed Double Arm Mixers.
Day, Baker Perkins, Hottman Mixers, all types.
Hope, Elgin, Filler Piston Fillers.
World, Ermold, Pony Labelers.
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Over 5,000 MACHINES IN STOCK—Mixers, Labelers, Dryers, Fillers, Sifters, Grinders, Cappers, Pulverizers, Packaging Machines, Carton Sealing Machines.
Write, Wire, Phone Collect for Details and Quotations.

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**318-322 Lafayette Street**
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**Phone: CAnal 6-5334**

**FOR SALE:** MULTIPLE EFFECT EVAPORATORS—In excellent condition—Available April 1, 1959.
1—Used Peebles triple effect complete with vapor heater, steam heater and all auxiliaries and pumps. Capacity 13,500#/hr. evaporation.
1—Used Peebles double effect complete with steam heater and all auxiliaries and pumps. Capacity 15,000#/hr. evaporation.
1—Used Peebles Hi-Concentrator complete with steam heater, and all auxiliaries and pumps. Capacity 6,000#/hr. evaporation.
Henszey Company, Watertown, Wisconsin.

**FOR SALE:** Standard Knapp #429 Top Gluer. Fitzpatrick st. st. Commuting Machines Models D & F. 3,000, 3,700 gallon stainless steel Vacuum Tanks with coils. Niagara Pressure Leaf Filters: 500, 100, 80, 45 sq. ft., Stainless Steel. Hope Piston Filler gallons per stroke. SEND US YOUR INQUIRIES. PERRY EQUIPMENT CORP., 1405 N. 6th St., Phila. 22, Pa.

**SUCCESSFUL** new design metal roller Multi-Sizer for sweet potato canning factories and produce sheds. For sweets, cukes, and fruits; 400 to 1,000 bushels per hour sizes. Side delivery rubber belts to can fillers or packages. Also produce shed, washers, waxers, and sizers. C. Stanley Short, Cheswold, Del.

### CLEANING EQUIPMENT

For plant maintenance, tank cleaning and sanitation, hot "jet stream" cleaning with Sellers Hydraulic Jets. Send for Bulletin 424-B. Sellers Injector Corporation, 1604-K Hamilton Street, Philadelphia 30, Pa.

**ABC Model XSA case sealer,** 250 gal. S/S Lee kettles, new 40 gal. S/C kettles, 42" x 72" retorts, 500 gal. S/S semi-tank agit., S/S viking pumps, new 400 lb. S/S ribbon mixers. Additional equipment in stock. We buy and sell. Aaron Equipment Company, 1851 Blue Island, Chicago, Illinois.

STAINLESS MIXING KETTLE. 125 gal. Lee, 90# W.P., double-motion agitator, stainless scrapers, 3 HP motor. Rebuilt, guaranteed, immediate shipment. Write for complete list. HORNE MACHINERY CO., INC., 1188 Harrison St., San Francisco 3, Calif.

FOR SALE: One 250 gallon 2/3 jacketed stainless steel kettle with steel jacket outside, 3" outlet, 1" safety valve, for 90 lbs. working pressure, in very good condition. S. E. Mighton Co., Bedford, Ohio.

**FOR SALE**

SEVEN BOOMER & BOSCHERT
VERTICAL PRESSES
WITH PUMPS, VALVES, ETC.

**H. L. TRIESTRAM**
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FOR SALE—Dismantling Sweet Corn Canning Plant at Hampton, Iowa. Write for listing of equipment being offered subject to prior sale. Buildings and real estate also are for sale. Send inquiries to:
MARSHALL CANNING COMPANY
P. O. Box 187, Ackley, Iowa
Phone 2151

**FOR SALE: THE TEXTUREMETER**—"Tasting device of many uses." Portable-hand-operated — available about March 15th. shipment. Can be furnished in stainless steel bowl & punch—also metric & english combination gauge at small extra cost.
Max R. Pankratz, Exl. Distr.
Valders, Wis. Phone 73

FOR SALE: "Tuc" Can Shaker, heavy duty, for all can sizes, set up for 300x407 cans, Serial CAF-868, 220 Volt Motors, bought new July 1958 for $3245.00. Bids invited. S. E. Mighton Co., Bedford, Ohio

**FOR SALE—KETTLES, LABELERS,** Retorts, Fillers, Tanks, Pumps, Can Washers, sterilizers, Case Packers, etc. Send for list. Loeb Equipment Supply Co., 830 W. Superior St., Chicago 22, Ill.

## WANTED MACHINERY

**WILL TRADE A TWIN PISTON ELGIN FILLER** for a can labeling machine. Box 139, c/o CANNER/PACKER.

WANTED: S. S. Steam Kettle 250 or 300 Gal. State working pressure, depth, width and size outlet. PATIO FOODS, Box 10158, San Antonio, Texas

WANTED: #303 Changer Parts for Continental Can Closing Machine—Type 334-CR-P7. Box 649, CANNER/PACKER.

WANTED: 307 x 306 or 307 x 409 change parts for Canco 300 vacuum closing machine. Box 849, CANNER/PACKER.

WANTED—Used refractometer for measuring the percentage of dissolved solids. Write Box 749, CANNER/PACKER.

## HELP WANTED

WANTED—MAN TO WORK IN MODERN PICKLE PLANT located in middle west, as packing line superintendent. Must have thorough knowledge of packing equipment, White Cap Machines and high speed production. Box 339, c/o Canner/Packer.

WANTED: Experienced fruit buyer by a leading New York State processor. Must be willing to travel. Knowledge of Sales and Plant Management experience also helpful. Box 349, c/o Canner Packer

## POSITIONS WANTED

POSITION WANTED: 35 years experience in developing and building sanitary and general line can making and closing machines. Also development work on containers for beer, milk, and frozen foods. Box 419, Canner/Packer.

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**New price .....$2450.00**
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## *Rebuilt* FOOD PROCESSING MACHINERY

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| # 10 Weber Apple Filler | Closing Machines | Continuous Pasteurizer |
| Pease Double Apple Parers | Niagara Crop Duster | Tomato Chopper Pump |
| 14' FMC Blancher | Sterling Dicer | Hot Water Tomato Scalder |
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**WEBSTER • NEW YORK**

★ *Serving the food processing industry since 1912* ★

POSITION WANTED: Superintendent who is elderly but active wants season job. Supervise production, maintenance. General line including Peas, Beans, Corn. Prefer Midwest. Box 549, CANNER/PACKER.

WANTED—Position—Production or Quality Control Manager for product development in food industry or related field. Age 37. B.S. Bio-Chemistry. 13 years' experience in food processing. Box 449, c/o CANNER/PACKER.

POSITION WANTED: Twenty-five years' experience as plant superintendent from field to finished product, experienced in canning all vegetables, fruits, and jellies. Write Virgil Yerrick, 1041 Maple Ave., Jackson, Michigan.

## BUSINESS OPPORTUNITIES

FOR SALE—Old established Whole Grain Corn Plant with high five figure tax loss. Excellently located between two main North and South thru highways. Halfway between New York and Northern markets and Baltimore and other large Southern growing centers Storage-in-transit privileges provide ideal combination, distribution-storage facilities with production. Four car Pennsylvania Railroad siding. Fine water, adequate storage facilities easily expandable. Ample non-union white help. Excellent and unlimited growing land for many crops, adjoins Lancaster County, Pennsylvania. Plant offers unlimited possibilities as easily adaptable to wider use. Reasonably priced. Can arrange financing. Box #249, Canner/Packer

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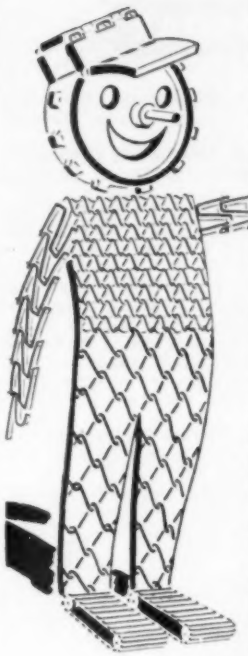
TOMATO PLANTS — CABBAGE PLANTS: Virginia State Inspected. We guarantee hardy, disease free plants. Start with the best this year—use plants from our Premium Certified seed. Cabbage, Broccoli, Cauliflower; ready now: Tomato, Pepper; ready May 20. TOP QUALITY—PROMPT SERVICE. Write or telephone for catalogue and prices. J. P. Councill Company, LOgan 23546, Franklin, Virginia. "Virginia's Oldest and Largest Growers."

We purchase raw processed or frozen foods. Have institutional and foreign markets which would not disturb your present market. Berlin Company, 2900 W. Peterson, Chicago, Ill. RO1-4348.

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If your production costs are higher than they ought to be, you very likely can do something about it. Often one change in a method or process can make the difference between loss and profit. We'd like a chance to consult with you and see if such a change in method won't improve *your* profit picture. (It certainly has paid off for many other firms). The best part is, that it won't cost you one cent to find out. Just clip the attached coupon and mail it. When you do, one of our trained conveyor belt representatives will visit you to discuss and examine your particular problem and offer suggestions that will show you how Cyclone Metal Processing Belts may cut your production costs below the ulcer level. These suggestions will be tailored to YOUR problem . . . and no obligation. How can you lose? Do it, today. *USS and Cyclone are registered trademarks*

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**Freddy the Freezer practices mind reading**

Super Market
Frozen Fruits
This is nice. It has natural color . . . and the flavor's always good. Oh, here's that vitamin C notice on the label. I'll buy it.
Wow! She picked up my package of frozen fruit. What's she thinking?

Freddy visits his favorite food market and tunes in Mrs. Consumer's vibrations.

Freddy protected natural color and flavor of his fruit with Roche vitamin C, and said so on his label. Result: happy sales, happy broker, happy store, happy customer, happy Freddy

Be happy, too. Use Roche® vitamin C.

VITAMIN DIVISION
**HOFFMANN-LA ROCHE INC.**
NUTLEY 10, N. J.

# COMING EVENTS CALENDAR

### April

5-9—**American Warehousemen's Assn.**, 68th annual meeting, Statler Hilton Hotel, Washington, D. C.

7-8—**Indiana Canners Assn.**, Spring meeting, Purdue University, Lafayette, Ind.

8-10—**Central States Frozen Food Assn.**, midyear meeting, French Lick Hotel, French Lick, Ind.

11-15—**Cooperative Food Distributors of America**, 11th annual convention, Ambassador Hotel, Los Angeles, Cal.

16—**Packaging Assn. of Canada**, Montreal Chapter, seminar, Ruby Foo's, Montreal.

16-18—**Institutional Food Distributors of America**, USWGA annual convention with exhibits, Americana Hotel, Miami Beach, Fla.

17-18—**Institutional Food Distributors of America**, annual meeting, Americana Hotel, Miami, Fla.

19-22—**U.S. Wholesale Grocers Assn.**, annual convention and Food Distribution Exposition, Americana Hotel, Bal Harbour, Miami Beach, Fla.

23-25—**Southern and Southwestern Frozen Food Assns.**, spring convention—joint meeting, Statler Hilton, Dallas, Texas.

### May

4-6—**Biscuit Manufacturers Assn. and Biscuit Makers Institute, Inc.**, joint convention, Palmer House, Chicago, Ill.

5-7—**14th Industrial Waste Conference**, Purdue Memorial Union Building, Lafayette.

7-8—**National Kraut Packers Assn.**, cutting bee and meeting, N. Y. State Agricultural Experiment Station, Geneva, N. Y.

8-9—**National Frozen Food Distributors Assn.**, directors' meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

17-21—**Institute of Food Technologists**, annual meeting, Philadelphia, Pa.

21-**Packaging Assn. of Canada**, Montreal Chapter, seminar, Ruby Foo's, Montreal.

24-27—**Super Market Institute**, convention and exposition, Atlantic City, N. J.

24-28—**American Spice Trade Assn.**, annual convention, Del Monte Lodge, Pebble Beach, Calif.

### June

1-3—**Pacific Seedsmen's Assn. and Idaho - Eastern Oregon Seedsmen's Assn.**, 33rd annual convention, Sun Valley, Idaho.

8-10—**Grocery Manufacturers of America**, Greenbriar Hotel, White Sulphur Springs, W. Va.

9-13—**Inter American Food Institute, Inc.**, second Inter American Food Congress, Carillon Hotel, Miami Beach, Fla.

14-15—**Michigan Canners & Freezers Assn.**, spring meeting, Whitcomb Hotel, St. Joseph, Michigan.

14-17—**Processed Apples Institute, Inc.**, eighth annual meeting, Whiteface Inn, Lake Placid, N. Y.

21-25—**National Assn. of Retail Grocers**, annual meeting, Navy Pier, Chicago, Ill.

21-25—**Assn. of Food & Drug Officials**, 63rd annual meeting, Boston, Mass.

### August

10-13—**National Food Distributors Assn.**, 32nd annual meeting, Sherman Hotel, Chicago, Ill.

13-15—**Institutional Food Distributors of America Div.**, USWGA conference and mid-year meeting, Green Briar Hotel, White Sulphur Springs, W. Va.

23-25—**1959 Internation Clover Farm**—Foodland, 33rd anniversary convention, Toronto, Ontario.

### November

5—**Illinois Canners Assn.**, fall meeting, LaSalle Hotel, Chicago, Ill.

17-20—**Packaging Machinery Manufacturers Institute, Inc.**, "PMMI Show of 1959," New York Coliseum.

23-24—**Michigan Canners' and Freezers' Assn.**, fall meeting, Pantlind Hotel, Grand Rapids, Mich.

## Merchandising Calendar

*May 1:* Loyalty Day (Presidential proc.).

*May 1-8:* Am. Camp Week (Am. Camping Assn., Bradford Woods, Martinsville, Ind.).

*May 1-31:* National Tavern Month (Natl. Licensed Bev. Assn., 420 7th St., Racine, Wis.).

*May 3-9:* National Raisin Week (Raisin Advisory Bd., P O Box 1963, Fresno, Calif.).

*May 3-9:* Be Kind to Animals Week (Am. Humane Assn., 896 Penna. St., Denver, Colo.).

*May 3-10:* National Family Week (Natl. Council of Churches, 257 4th Ave., New York 10; Natl. Catholic Welfare Conference, 1312 Mass. Av., Washington 5, D. C.; Synagogue Council of America, 110 W. 42nd St., New York 18).

*May 9-16:* National Frozen Food Week (Natl. Froz. Food Distribs. Assn., 60 E. 42nd St., New York 17).

*May 10:* Mother's Day (Presidential proclamation).

*May 10-16:* National Girls Club Week (Girls Clubs of America, 265 State St., Springfield 3, Mass.).

*May 15:* National Defense Transportation Day (Natl. Def. Trans. Assn., 1001 Conn. Ave., Washington 6, D.C.)

*May 16:* Armed Forces Day (Presidential proclamation).

*May 17-23:* National Domestic Rabbit Week (Am. Rabbit Breeders' Assn., 1707 East Carpenter St., Springfield, Ill.).

*May 21-30:* National Pickle Week (Natl. Pickle Packers Assn., 202 So. Marion St., Oak Park, Ill.).

*May 22:* National Maritime Day (Am. Merchant Marine Institute, 11 Broadway, New York 5, N. Y.).

*May 30:* Memorial or Decoration Day (presidential proclamation. Not observed in Ala., Ga., Miss., N. C., S. C.).

*June 1-7:* Natl. Circus Week (Clown Club of America, River Road, Bernardston, Mass.).

*June 14:* Flag Day (Presidential proclamation).

*June 21:* Father's Day (Natl. Father's Day Committee, 50 E. 42nd St., New York 17, N. Y.).

*July 1-31:* Natl. Iced Tea Time (Tea Council, 500 5th Ave., New York 36, N. Y.).

*July 1-31:* Natl. Picnic Month (Am. Bakers Assn., 20 No. Wacker Dr., Chicago, Ill.).

*July 1-31:* Natl. Hot Dog Month (Natl. Hot Dog Month Council, 3520 So. Morgan Ave., Chicago 9, Ill.).

*July 4:* Independence Day (Presidential proclamation).

## I.F.T. Sections Calendar of Meeting Dates

### Western

*Nor. Calif.*: April 13, joint meeting with American Society for Quality Control.

*So. Calif.:* April 15, W. Ray Junk, manager, Industrial Service Dept., Hawaiian Sugar Refining Corp., on "Recent Food Research Work Sponsored by the Sugar Research Foundation."

### Eastern

*Philadelphia:* May 5, Mr. John J. Mitchell, cannery superintendent, Keystone Mushroom Co., on "The World of Mushrooms."

*New York:* April 15, at Brass Rail, Lloyd E. Slater, Foundation for Instrumentation Education and Research.

*Northeast:* April 21, at M.I.T. Faculty Club, Dr. Ferdinand P. Mehrlich, scientific director, Q. M. Food and Container Institute for the Armed Forces, on "Coffee Technology."

### Midwest

*Chicago:* April 13, Dr. H. O. Halvorson, head, Department of Bacteriology, University of Illinois, on "Some Observations on Some Halophilic Bacteria."

*St. Louis, Mo.:* April 15, at Hotel Gatesworth, Howard L. Stier, director, Div. of Statistics, National Canners Assn., on "Practical Applications of SQC in Food Processing."

*St. Louis:* May 11, installation of new officers.

*St. Louis:* May 17-21, 19th annual meeting, Bellevue-Stratford Hotel, Philadelphia, Pa.

### Southern

*Mexico:* First Tuesday of each month. For time and place phone Walter E. McAllister, Mexico City 11-90-00.

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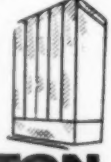

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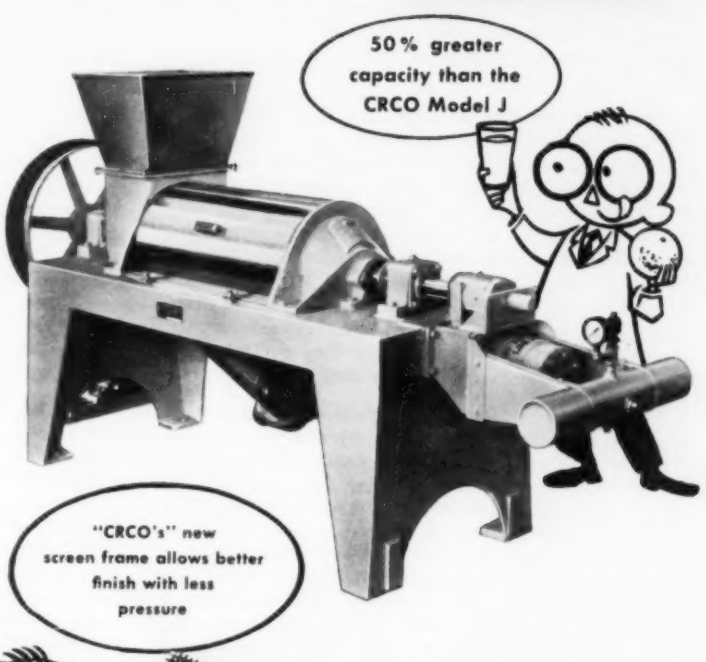


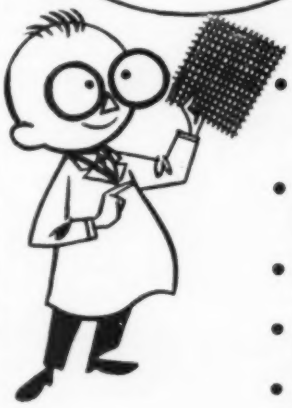

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## THE EDITOR'S PAGE

# Statistics: Do You Have What You Need?

"A statistic is a statistic is a statistic."

So Gertrude Stein might have written had she known more about our business, for statistics are so essential to processed foods, and there are so many kinds and qualities of them.

Everyone who reads this page, therefore, should be concerned with statistical data, both because of their value to you and to your company, and also because you should forever be seeking to obtain more complete, more accurate, more uniform and more useful figures for your job.

**Raw Products:** If your work is in the field department, you know that acreage, yield, tonnage and price figures are available on some ten vegetables used for processing, but not on at least half a dozen others which are frozen or canned. You know that some fruit production is reported in boxes—of a variety of sizes—some in pounds, some in tons, some in bushels. You need to review these statistics regularly, not only to get what meat you can from them, but also to tell your agricultural statisticians in USDA and elsewhere whether or not they are adequate, and how they could be improved in either content or presentation.

**Production:** You men with production responsibilities can, with some justification, say that you are the forgotten people in the statistical world. Would annual figures on industry-wide yields per raw product ton, on the beginning and ending of seasons, on the average number of workers per ton of product over a picking belt be of interest to you? Do you have all the information you would like on conversion factors from one container size to another, from one product form to another? In the canning field you have good data on processing times and temperatures; do you need more of this for drying and freezing operations, for specialty packs in glass? If so, ask for them!

**Management and Sales:** In this area of our business, figures are more plentiful, but not necessarily completely adequate. For example:

- In canned and glassed foods, prices are quoted in dozens, but packs, stocks and shipments are in cases (sometimes of standard content, sometimes varying widely in can size or number of units per case). As a result, a shift from No. 2's to No. 303's can seems to show a gain in pack when actually the volume has decreased. Why not use dozens to report packs and stocks of the various container sizes, and make more use of standardized cases for commodity totals?

- In practically every processed food field there is more than one agency compiling data. U.S. Dept. of Agriculture, U.S. Dept. of Commerce, U.S. Dept. of the Interior, national and regional industry associations, and professional market research firms pour out a flood of information and—unfortunately—misinformation. The 1954 Census of Mfrs. material on foods was sometimes reported in terms not used by industry, its figures were scattered through many categories instead of being grouped as some of us felt they should have been, and totals did not agree with industry association reports.

When national associations break down their data by states or regions, they sometimes disagree with reports issued by regional groups. Don't you feel that a single set of figures on a subject is better than three or four conflicting compilations? If so, tell your associations that, so their officials can be guided accordingly.

- In every branch of our business, there are empty spots in our statistics. For 20 years I have been urging that we need complete information on packs of foods in glass, to replace the annual estimates this journal develops. The frozen food industry has fine material on fruits-vegetables-juices, some data on eggs and fish, nothing but estimates on the rapidly-changing prepared, meat and fowl products. Dry food pack reports are tremendously varied in their form, their accuracy, their completeness. Even in canned foods, where we have much excellent work being done, nobody knows exactly how much canned soup, prepared beans, or fruit juice is put up in the country each year.

**To Do:** This commentary is not a criticism of the men or organizations who currently do our statistical work for us. They are capable and sincere, and almost always do the best they can with the tools they have. Their efforts have been responsible for much of the progress of the business.

Where they have not provided adequate information, the fault lies with us who use their data. We need to give them mandates to do what is needed—to tell them what we want, and to ask them to get it.

Whether your work is in raw products, production, distribution or management, help your statistical agencies work for you. Check what they now do; let them know what you think they should do.

***El Stark***
Editor

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